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Removal of Flow Restrictions in Well Completions

by
C. E. Clason and Wayne F. Hower
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Duncan, Oklahoma

It is a well-known and accepted fact that drilling into an oil-producing formation can result in impairment of the normal permeability and create restrictions to the flow of fluids to the well bore. This phenomenon has been shown hundreds of times where formation characteristics, as disclosed by cores, drill-stem tests, and electric logs, indicate a potential production that is not developed when the well is completed in the zone in question. Many wells have been abandoned which, in view of presently known facts, might have been made into satisfactory producers.

Older producing wells, which were once good oil producers, are frequently damaged during the performance of various kinds of remedial work and quite often prove difficult to recomplete to the previous production rate.

Phenomenal results from relatively small acid treatments in limestone formations or shooting in sandstone formations have demonstrated that both rotary and cable-tool drilled wells have been plugged but a short distance from the well bore. This blocking action has lately been termed "skin effect," and its influence on the productivity of wells has been described in a recent article.[1] This skin effect, however, should not be limited to a small radius around the well bore as the blocking materials can penetrate highly permeable formations, crevices, and fractures to a considerable distance.

Any process or technique to reestablish as much of the normal permeability as possible must then consider the nature and causes of the blocking action. These causes vary from field to field, which complicates a general description of the problem; but it is believed that a broad discussion of the more prevalent troubles will be of value at this point.

Unless a well is drilled in with oil or an oil-base mud, the presence of water in the system is necessary and the unavoidable filtrate from a water-base mud can act in several ways to reduce permeability. Recent findings,[2,3] have shown that drilling fluids can penetrate appreciable distances into oil-bearing formations. Mud losses barely noticeable while drilling or running casing can be sufficient to plug the well. Additional studies have disclosed that excessive pressures created during drilling and running of casing may often force large quantities of drilling fluids into the formation. Even very small losses to the formation may be sufficient to plug the well within a short radius.

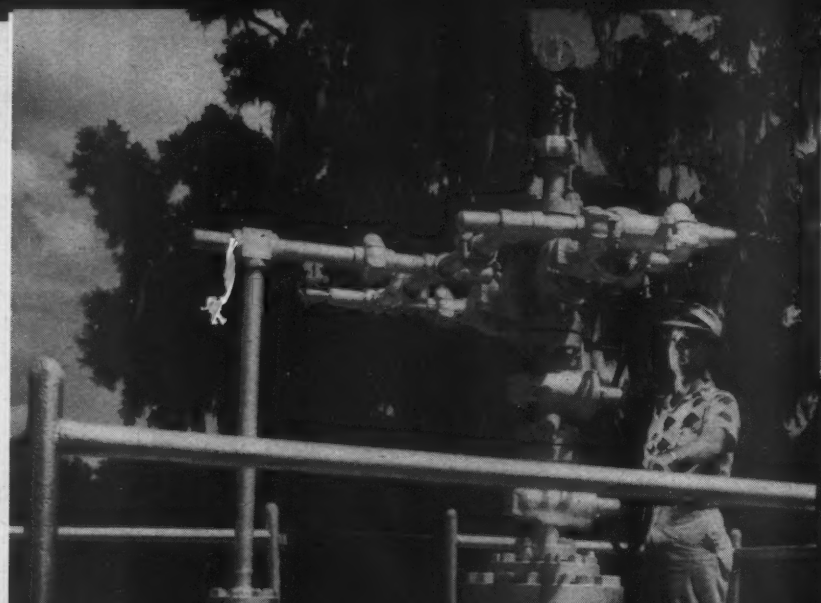
Fresh or salt water introduced during remedial operations penetrates the formation adjacent to the well bore, which can act to reduce the flow of oil. In some cases, oil-water emulsions are developed which form very efficient blocks to the flow of oil.

End effects are often noticed where formation fines and interstitial water accumulate in the formation near the well bore, which act to reduce the permeability of the producing formation to oil.

The character of the formation must also be considered. Some contain varying quantities of bentonite which will swell by the adsorption of water and thus greatly reduce the diameters of the flow channels in the formation.

The question now arises as to what can be done to alleviate these blocking conditions. A review of the foregoing discussion shows that water and/or bentonite are the chief causes of the reduction in premeability. Therefore, some means of removing the water or bentonitic drilling mud would restore the original condition existing before the penetration of the drill and thus permit an effective flow of well fluids to the bore. Several ideas for accomplishing the removal of the blocking materials were considered, but all of these were abandoned in favor of a chemical method. The object of the chemical method is to break water blocks, disperse muds, reduce the size of water-swollen bentonite particles, and destroy emulsions in the vicinity of the well bore. It was realized that

[1]References are at the end of the paper.



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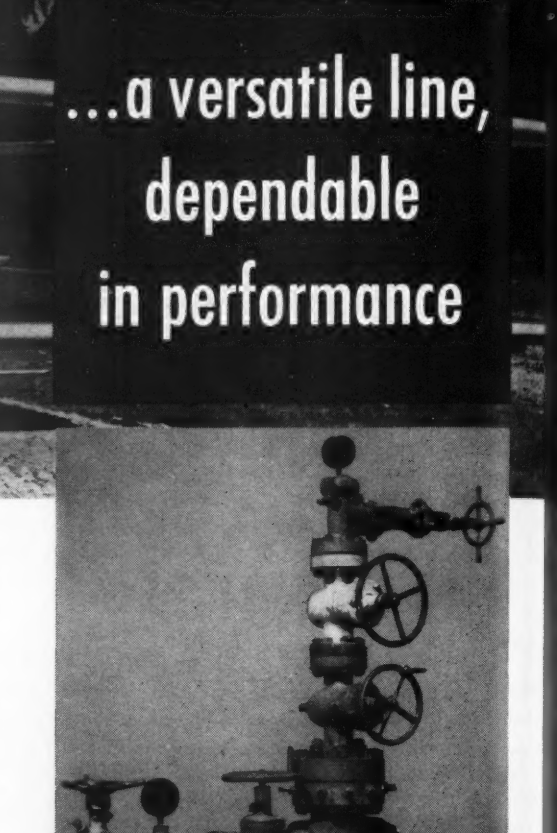

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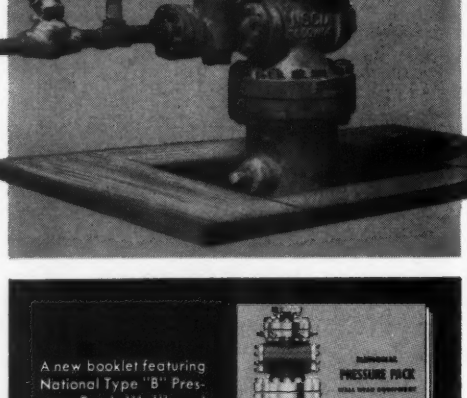
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actual dissolving of siliceous and bentonitic materials could not be achieved in appreciable amounts under actual well conditions. Therefore, the chemical action would have to produce a series of physical changes to accomplish the desired result.

Investigations in the laboratory have shown that a mixture of dilute hydrochloric acid and a surfactant of the aromatic sulfonic acid class has a marked effect in increasing the effective permeability of sands containing bentonite.

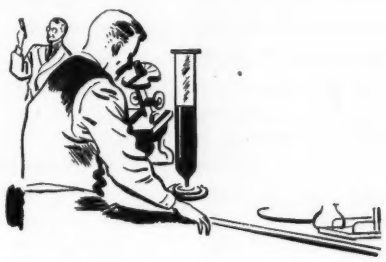
The water adsorption or swelling properties of bentonite primarily depend upon the surface characteristics of the individual particles. This includes the type of metal (cation) ion or ions that are attached to the particles as well as the electrical charges.

Past work has shown that an expanding bentonite can be changed to a non-expanding bentonite by changing the outer or exchangeable cations. Work by Baver and Winterkorn[4] concerning the water adsorption properties of various bentonites shows the metal exchangeable ions cause a vast difference in the water adsorption properties of the bentonite. Closely controlled work by these men show that the sodium bentonite would adsorb five times as much as the hydrogen (acid) bentonite.

A powerful negative electrical charge surrounds the bentonite particles. This charge can be partially neutralized by the presence of metal salts and thus prevent normal water adsorption and swelling. This effect has been noticed many times where the difference in swelling of certain shales in fresh and salt water is very pronounced.

The chemical mixture of dilute hydrochloric acid and aromatic sulfonic acid has a powerful effect on the surface characteristics of bentonite. The hydrogen ion from the hydrochloric acid will replace the predominant sodium ion that is attached to the swollen bentonite thus causing the formation of hydrogen bentonite. Such a change will cause the bentonite particle to lose most of its affinity for water. The system, bentonite and water, will be reduced in size, and free water will be released from each nucleus. A partial neutralization of the electrical charges will also be noticed, which is caused by the excess of hydrochloric acid plus the salt formed by the ion-exchange reaction.

The presence of the aromatic sulfonic acids in this chemical mixture produces several desirable and beneficial effects in addition to and in connection with that of ion exchange. It is the combination of these ingredients that has resulted in such a potent and efficient means of regaining permeability as presently disclosed. The aromatic sulfonic acid is a very active surfactant and emulsion breaker. The recommended proportion of the foregoing chemical mixture has a low surface tension that falls in the range of 28.8 dynes per centimeter at 78 F.



Such a mixture will penetrate mud filter cakes and bentonite sand formations effectively, and thus contact a large quantity of bentonite. The efficiency of the ion exchange is increased by this action; and the released water, having a low surface tension along with the original solution, is easily recovered from the treated horizon.

Whether a quantity of mud has been lost to an oil-bearing formation, or whether the aim is to remove the mud filter cake from the sides of the well bore, the dispersing properties of this chemical mixture are highly important. The mud filter cake is not hardened by the ion exchange, but becomes dispersed as the exchange takes place, thus forming a fluid mixture very easily removed from the formation or the well bore.

The chemical mixture also has the property of breaking oil and water emulsions. Strong evidence has been obtained which indicates the presence of emulsions in oil-bearing formations, particularly where drilling mud is present. The solids in the drilling mud are excellent emulsion stabilizers and promote the formation of emulsions that can efficiently block the flow of oil to the well bore. Therefore the breaking of these emulsions, and the recovery of the mud and water, is an essential factor that must be considered in the treatment of a formation to re-establish sufficient permeability for the economic production of oil.

The surface of the bentonite particle can be considered polar, because of the distance between the electrical charges on its surface. The surfactant in this chemical combination is also very polar and can be considered anionic in nature. In conjunction, a theoretical consideration points to the strong possibility of an adsorption of this complex ion on the surface of the bentonite particles. Laboratory tests have proved this theoretical concept, plus the fact that the same ion is strongly adsorbed on the sand grains. This adsorption aids the effort to change the nature of the surface of the bentonite particles, and thus alter its swelling and wettability in different environments. Although it is possible for the surfactant to be leached from the sand grains when subjected to the flow of water, tests have shown that large volumes of water are necessary to remove a high percentage of the adsorbed chemical from the solids, thus conclusively proving that a large volume of water or mud will develop a low surface tension as it passes through the treated sand body.

The effectiveness of the mixture of these chemicals on the permeability of bentonitic sands has been thoroughly investigated in the laboratory. A system was devised that simulated an oil well where fluids could be forced through the sand body in different directions, so as to determine relative flow rates of oil under a variety of conditions. A clean sand was contaminated with different proportions of a good grade of drilling-mud bentonite and packed in the apparatus. The synthetic formation was then wet with fresh water and permitted to remain in a static condition until the ben-

tonite was thoroughly hydrated. The flow of oil was reversed through the sand body until a constant flow rate was obtained. The chemical mixture was then forced into the sand body from the same direction as was the fresh water. The flow of oil was again reversed and a constant flow rate obtained. Similar tests were performed using dilute hydrochloric acid without the addition of the aromatic sulfonic acid, and the results are included for comparative purposes.

Per Cent Bentonite in Sand	*Treating Agent*	*Percentage Increase in Oil Flow*
10	Chemical Mixture	667
10	Dilute Hydrochloric Acid	300
20	Chemical Mixture	3,450
20	Dilute Hydrochloric	1,538

A more striking difference in flow-rate increases was noticed when similar sand bodies were treated with both agents, but no initial oil-flow rate was determined before the chemical treatment. The conditions of the tests were very closely controlled to give the same density of packed sand, and constant pressures were observed. An increase of 3,445 per cent was obtained in oil-flow rate, as compared to initial rates of previous determinations, as a result of the chemical mixture treatment. A treatment with dilute hydrochloric acid under the same conditions showed an increase in the rate of flow of oil of only 161 per cent, thus substantiating the penetrating property of the aromatic sulfonic acid in the chemical mixture.

A portion of the 119.2 bbl per ton bentonite used in the foregoing tests was treated with the chemical mixture, washed, filtered, dried and reground. The yield of the bentonite thus treated was decreased to 35.7 bbl per ton. This is another proof that the surface characteristics of the bentonite particles were radically changed, thus causing the swelling and water-adsorption properties to be greatly altered.

Some interesting phenomena were observed during the tests which are thought to be of value and are listed for further reference.

1. Fresh water was never recovered when oil was forced through the sand body during the initial oil-flow rate determinations.
2. Acid water, having a low surface tension, was recovered ahead of the oil on every test where the chemical mixture was used.
3. No bentonite was recovered with the oil or chemical mixture on any of the determinations. Therefore, the great increase in permeability shown by the additional flow of oil is the result of the change in the surface characteristics of the bentonite particles which caused the release of some of the previously very strongly adsorbed water.

The method of applying the chemical mixture to either new wells for initial production or to an established well to regain production, is usually a simple procedure. Local conditions sometimes cause variations to be made in the general procedure, but the principle of application is the same.

The volume of chemical solution for the treatment of a plugged formation depends primarily upon the thickness and porosity of the formation. In addition, the great variety of conditions that exist in the many fields complicates exact recommendations and necessitates a certain amount of field experience to determine optimum quantities in each locality. However, experience does permit us to state that 500- to 1,000-gal treatments are the most popular. Some 250-gal applications are known, as well as 2,500-gal batches.

The cause of plugging can often help in this phase. If a fairly tight formation gave a good drill-tem test but was swabbed dry on completion, it can be assumed that the blocking material in the formation has not penetrated more than a few inches from the well bore. Therefore, a 250- to 500-gal treatment would be recommended. If there is evidence that a large volume of mud has been lost to the formation, then it is advisable to use successive treatments to remove the blocking material. A large batch could conceivably displace the mud a great distance from the well bore, making an efficient recovery impossible. This phase has been proved by many applications in the field.

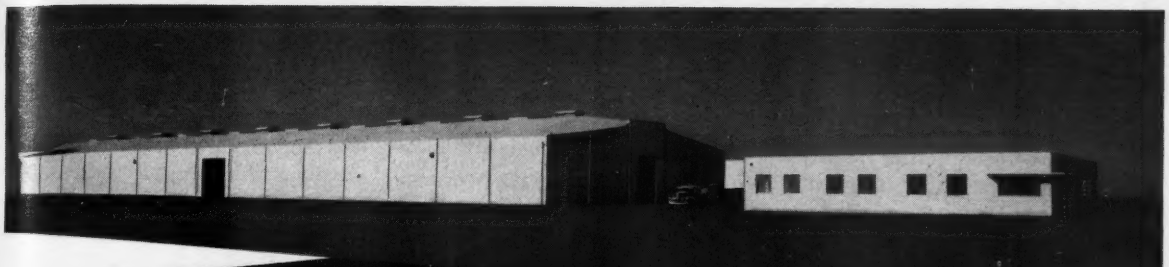
Where a producing well needs rejuvenation, the gallonage and injection procedure can be varied with resulting economic advantages. Experience has shown that a relatively large single-stage injection instead of successive small stages will gain in work time and give satisfactory results. Such a treatment usually is not for the removal of large quantities of mud but for the treatment of a bentonitic sand or the removal of accumulated interstitial water and silt. Again, the best approach is to try first the smaller-volume one-time treatment and ascertain the results, then progress to the larger-type job and so make a comparison.

The foregoing discussion applies to producing horizons that have an effective thickness of not more than 20 ft. Thicker pays will naturally require a larger volume of the chemical mixture.

The actual application in a new well can be done through the production packer already in the well. The treating solution is placed in the tubing and displaced with available fluids into the formation, leaving the perforated or open-hole section, just covered with the treating solution. The usual closed-in time is one to two hours, after which recompletion can follow. Natural flow frequently occurs which simplifies recompletion. In other cases well conditions will require swabbing to remove the treated blocking material and to start the flow of oil to the well bore. Clean-up times are usually very short, but depend upon the amount of material that must be removed.

The treatment of old wells is equally as simple. The chemical mixture has been applied through tubing with rods in place, open-ended tubing, and where conditions demand, through a great variety of well-servicing tools and packers.

The chemical mixture has been applied directly through the drill-stem testing tool in wildcat wells as an aid to prove the oil-production possibilities of a new formation. Such an instance recently occurred in a field in the nothern part of Louisiana near the Texas border. A low-pressure chalk formation at 2,200 ft. gave a dry test. The chemical mixture was forced into the



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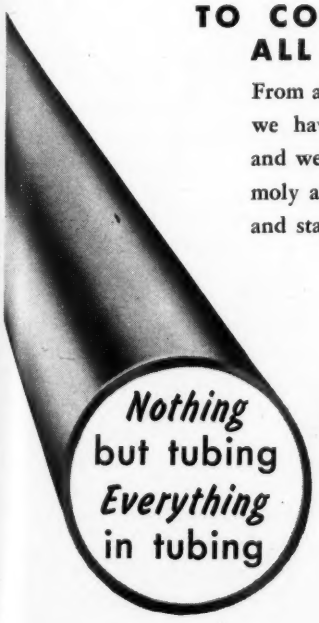

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formation and the testing tool rerun to give a flowing test.

Field results in using this chemical treatment as a production stimulant have been encouraging. Many new wells have been made into good producers which otherwise would have been abandoned. Old pumping wells have been made to flow, and wells that have been dead for some time changed into economic producers.

It is very difficult to give a percentage figure on the degree of success of these treatments. The large number of last-resort applications in testing new formations and very old wells acts to give a high percentage of so-called failures. Conversely, however, there are many instances where the last-resort type of treatment did secure production. Therefore, hope of a new discovery or the salvage of an old well continues to cause the treatment of many doubtful formations.

It might be well to attempt to define a successful treatment. It might he said that a treatment that puts additional oil in the tank is the only type of successful application. However, if the pumping of the mud-cleanout material can quickly determine the oil productivity of a doubtful play, money can be saved in future work. For example, a well producing from the Woodbine sand in the East Texas Field was treated with 500 gal of the chemical mixture. Fluid production was changed from zero to 60 bbl of water per day. There was no doubt that the formation was cleaned of the plugging material and that no oil was available at that particular depth. Therefore, oil production after the formation has been cleaned of the plugging material will depend upon the oil in place and the pressure available to move it to the well bore.

In the Refugio-Fox Field, Texas, an old well completed in the Greta sand had produced until oil ceased to flow to the well bore. After a 500- gal treatment of chemical solution, the well produced 30 bbl of oil per day and 10 bbl of water per day. Another well producing from the Slick sand near Pettus had originally been completed at 87 bbl of oil per day and 9 bbl of water per day. When natural production had dropped to zero, a two-stage treatment caused production to be 80 bbl of oil per day with no water. Still another well, which was thought to have a very shallow block, was treated with only 100 gal of the chemical mixture. The assumption was proved to be correct when oil production increased from 37 bbl of oil per day, at a high gas-oil ratio, to 260 bbl of oil per day, at a low gas-oil ratio.

An old well, producing from the sub-Clarksville formation in the Spence Field of East Texas, responded to a 250-gal treatment by increasing from zero to 36 bbl of oil per day. A well producing from the Woodbine sand in the East Texas Field increased from 4 bbl of oil per day to 87 bbl of oil per day as the result of a 1,000-gal treatment. Further work in the Woodbine along the east edge of the East Texas Field has been encouraging.

Three new wells were treated in the Cree-Sykes Field of Runnels County, Texas, that were completed in the Gardner Sand. One well, with 14 ft. of pay exposed, was treated with 750 gal and showed an increase from 24 to 64 bbl of oil per day. Another well responded to the same size treatment for an increase from 15 to 80 bbl of oil per day. The third well, completed with 48 ft. of pay exposed, went from a trace to 140 bbl of oil per day. A new well in the Claytonville Pool of Fisher County, Texas, producing from the Canyon Reef, responded to a 500-gal treatment by increasing from 360 to 1,200 bbl of oil per day. This formation contains rather large openings that become plugged with mud during drilling. This was clearly demonstrated when the well flowed 300 bbl of mud before the flow of oil started. Another new well completed in the Swastika sand of the East Bartlett Field in Jones County, Texas, went from 60 to 168 bbl of oil per day after a 500-gal treatment in 20 ft. of pay.

A very interesting well can be cited from a field in Southwest Texas. A test of this formation showed pipe-line oil and a surface pressure of 1,065 psi. While the test was being pulled, the well started to kick and was killed with mud. Upon completion on a production packer, the formation would not give up any fluid. A 250-gal treatment cleaned the formation of the blocking mud and pipe-line oil was soon flowing at 1,120 psi tubing pressure.

A field near Seminole, Oklahoma, will, under most circumstances, not produce fluids until treated with the chemical mixture. A well producing from the Sycamore formation in Carter County, Oklahoma, responded to a 2,500-gal treatment by going from a show to 150 bbl of oil per day. A well completed in the Layton sand, Logan County, Oklahoma, went from 2 to 30 bbl of oil per day after a 750-gal treatment.

Considerable success has been obtained with this material in the South Louisiana area. One well was making 26 bbl of oil per day, 6 bbl of water per day, and 960 Mcf gas through an open choke. Two weeks after treatment, this well was producing 80 bbl of oil per day, 7 bbl of water per day, and 369 Mcf of gas on a 14/82 choke. In the Charenton Field, three wells were treated in a zone that had never produced oil by any previous treatment. These wells responded with 48, 40, and 100 bbl of oil per day, respectively.

Operations so far in Canada indicate a real use for this mixture. In the Morinville area in Alberta, a gas test from the Basal Cretaceous yielded 5 MMcf on a drill-stem test,

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yet when completed made only 1 MMcf. After a 500-gal job, it produced 6 MMcf daily.

A cretaceous well in the Woodbend Field, a D-2 well previously treated with 500 and 1,000 gal of regular acid without results, came in flowing after 1,000 gal of this mixture.

The south end of Leduc Field has not responded to regular initial acidizing but a 500-gal treatment, followed then by regular acidization, has resulted in very good production.

A cretaceous well in central Alberta (Pollockville) refused to flow upon completion except by heading up with no sustained production. After a 500-gal application, it blew clean and flowed steadily.

Another sand well in southern Alberta produced only 20 bbl of water per day. After suitable treatment, a pumping well of 50 bbl of oil per day was obtained.

The following new wells in Southwest Texas are of interest because no oil production was obtainable before treatment with the chemical mixture.

Field	Formation	Depth	Production Before	Production After	
Saxet	Willis	6,760-90	0	90	10 days later
Harvey	—	8,000-02	0	165	1 week later
Yoward	Slick	7,486-91	0	70	1 month later
Meatz	Frio	3,263-67	0	80	1 month later
Pierce	Frio B²	5,308-14	0	120	1 week later
Driscol	Griffith	5,236-60	0	25	6 weeks later

The above examples clearly show what can be done along the line of production improvement. It must be remembered that many formations have not been helped by this chemical mixture, but it should also be kept in mind that oil must be present before it can be recovered and that this material will be of benefit only where water and/or bentonite are concerned.

All of the previously discussed work with this chemical mixture has been of the type where oil-production improvement is attempted by the removal of a blocking material. There are numerous formations that do not have enough natural permeability to produce an economical quantity of oil. In such cases, a formation-fracturing procedure has proved to be of benefit. In conjunction, field experience has shown that lower fracturing pressures are encountered, as well as greater and longer lasting oil production, if the well is first cleaned of mud and foreign matter by a treatment with this chemical mixture.

A fracture treatment was attempted in a well located in Runnels County, Texas. The pressure was applied to the Gardner sand but only a portion of the fracturing fluid could be displaced into the formation. A swab test produced only a small quantity of oil. A treatment with the chemical mixture reduced the injection pressure from 2,500 psi to 1,000 psi, with the subsequent fracture treatment giving a 220 bbl of oil per day flowing well. In the same area, it is a common practice to pump 200 gal of the chemical mixture ahead of the fracturing liquids. In other cases, it is desirable to treat with 500 gal and recover the mud and chemical mixture before fracturing. Both methods are giving good results, but usage depends upon the peculiar conditions existing in the various fields.

Water-injection and disposal wells have benefited from treatments with this solution. Injection rates have been increased and injection pressures lowered. There have been times when it was better not to recover the injected chemicals, while other treatments were reversed from the well. The nature of the plugging material undoubtedly controls the procedure in these cases.

Another novel use of the material is its application ahead of cement on squeeze jobs. A well near Washington, Oklahoma, producing from 9,000 ft., started to make water. Seven squeeze jobs were attempted with 250 sacks of cement being used on each job. A pressure of 6,000 psi was obtained on each squeeze but water flowed after the cement was drilled out. The eighth squeeze job had 500 gal of the chemical mixture ahead of the cement. Pressure dropped when it started to enter the formation, but only 80 sacks of cement were squeezed out before the pressure reached 7,900 psi. The cement was drilled out and the formation reperforated to give a flowing well with no water. Over 300 successful applications have been reported where trouble was being encountered with squeeze cementing.

The mixture has also been used ahead of cement in cementing liners and in releasing stuck drill pipe. It has proved, in one locality at least, to assist in mud removal and better jobs in primary cementing when run ahead of the cement, where control of the cementing mixture allows sufficient time of contact during the placement.

Conclusion

This chemical mixture of dilute hydrochloric acid has proved to be very effective in increasing the production of oil by the removal of aqueous and bentonitic blocking materials from both limestone and sand formations. It is not a cure-all for all production problems, thus requiring an analysis of specific conditions to determine the probable effect of an application. New uses are being found for the mixture which continues to add to its value as a useful tool in the oil industry.

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Presented at the
Spring Meeting of the Mid-Continent District Division
of Production
Tulsa, Oklahoma
March 18-19-20, 1953

Accurate

under all conditions

HYDRAULICALLY OPERATED

THE MARTIN DECKER TYPE "D" WEIGHT INDICATOR AND IDEAL TYPE "D" WIRE LINE ANCHOR COMBINATION is positively unaffected by temperature changes, leaks, or variations in fluid volume.

More Sensitive—More Convenient

A CONVENIENT WEIGHT INDICATOR which shows accurately the weight of the drill string directly in thousands of pounds—the pull on stuck pipe—shows tight hole when making trips and the total load on the derrick.

A BIT WEIGHT INDICATOR shows the driller directly and accurately in thousands of pounds on a 4 to 1 magnified scale the Net Weight on the bit.

A VERNIER WEIGHT INDICATOR graduated in 1000-lb. increments is extremely sensitive for fishing, milling, cutting, etc.—showing variations of as little as 25 lbs. in 50,000.

A SIMPLE RECORDER gives the engineer a permanent record of each 24 hours operation.

AN ADAPTABLE WEIGHT INDICATOR which can be mounted at the driller's position or at the most convenient location where the slightest change in hook load can be interpreted.

Write for Descriptive Literature!

"D", "E" and "F" Combinations
are in use all over the world.
There are three combinations:
THE TYPE "D"—
for a dead line load of 60,000 lbs.
THE TYPE "E"—
for a dead line load of 90,000 lbs.
THE TYPE "F"—
for a dead line load of 40,000 lbs.

HOME OF THE WEIGHT INDICATOR

MARTIN DECKER CORP.

LONG BEACH, CALIFORNIA

SAN JOAQUIN VALLEY: J. C. CULLEN, BAKERSFIELD, CALIFORNIA
MID CONTINENT DISTRIBUTOR: REED ROLLER BIT COMPANY, HOUSTON, TEXAS
CANADIAN DISTRIBUTOR: REED ROLLER BIT COMPANY OF CANADA, LTD., CALGARY & EDMONTON, ALBERTA

MARTIN-DECKER WEIGHT INDICATORS AND IDEAL WIRE LINE ANCHORS ARE ALSO SOLD THROUGH THE NATIONAL SUPPLY EXPORT CORP., THE NATIONAL SUPPLY CO. AND OTHER RECOGNIZED SUPPLY HOUSES

Personalities IN THE NEWS

Bower To Address SAE Meeting

L. L. Bower, chief engineer Waukesha Motor Company, will be a guest speaker at the SAE Meeting to be held on April 16 in Los Angeles.

L. L. Bower

The subject of Mr. Bower's talk will be "Exhaust Turbocharging of Diesel Engines". The paper and discussion will cover development, testing, problems, applications and power output at sea level and altitude of five engines from 426 to 2984 cubic inches with two makes of chargers operating up to 42,000 RPM. It will be illustrated with slides.

Mr. Bower graduated from the University of Michigan in 1916 with B. S. and M. E. degrees. He served in the first World War as a Master Engineer, Light Railway Division. During the years 1920 to 1927, he concentrated on chassis and transmission design in the truck industry with two different firms.

He joined the Waukesha Motor Company in 1927, serving as an installation and application engineer, having intimate contact with their customers and with the sales service, engineering and laboratory departments until 1949. For the last four years he has been chief engineer of the company.

Mr. Bower has been a member of the Society of Automotive Engineers since 1936, and is a past chairman of the Milwaukee Section. During the last five years he has been chairman of the Engineering and Technical Committee of the Internal Combustion Engine Institute, and is presently a member of the Board of Directors of the Coordinating Research Council, and a Registered Professional Engineer with the State of Wisconsin.

Lyman L. Bryan has been named information director in the Washington, D. C. Office of the Independent Petroleum Association of America. Prior to his appointment, Bryan had been in public relations work with the Pan American Refining Corporation at Texas City, Tex.

Charles S. Hale, president of Great Lakes & Chemical Company arrived in Los Angeles April 1 to be on hand for the opening of the firm's permanent California headquarters in the Los Angeles Subway Terminal Building.

Crowning 26 years and five months service, Stephen A. McNeil of Shell Oil's Wilmington division has retired in order to make a diligent effort to overcome his war incurred disabilities. McNeil served his country in two world conflicts. In 1942 the Navy recalled him to active duty to serve as a Boatswain mate aboard LSTs and LCTs. His LST 333 was torpedoed the night of June 22, 1943.

Byron Jackson Co. Elects Robert T. Harcus As Director

E. S. Dulin, President of Byron Jackson Co., announces the election of Robert T. Harcus to the Board of Directors. Mr. Harcus will fill the vacancy created by the resignation of C. S. Thomas, who was recently appointed Under Secretary of the Navy.

Robert T. Harcus

Simultaneously, Mr. Harcus was appointed to the newly created office of Executive Vice-President.

Mr. Harcus has been associated with Byron Jackson since 1945 when he joined the company as Export Representative. He was soon identified with the commercial development of the jet perforating process for oil wells. In 1949 he was appointed Executive Vice President and General Manager of International Cementers, Inc., which later became BJ Service, Inc., a wholly-owned subsidiary of Byron Jackson Co.

In 1951 Mr. Harcus became a Vice-President of the parent company and assistant to the President.

America's New Railroad

What's that surveyor doing? He's sighting on tomorrow... clipping off an old curve... clipping off the past...

It goes on day after day on the Santa Fe. Building new.

Till there's nothing left that's *old* today of the Atchison, Topeka and Santa Fe but the country and the song and the pride of its people!

IN THE PAST 5 YEARS... Whole fleets of streamlined trains replaced with finer streamlined trains... Enough new track laid to more than reach from Chicago to Los Angeles... Great new "hump" yards built to speed switching... New roadbed, new rail and new ballast methods—for smoother, safer rides for goods and people.

IN THE PAST YEAR... New freight stations, with new towveyors, at Chicago and San Francisco... Great new construction started to raise Santa Fe rails in Kansas and Missouri above the highest flood stage of recorded history.

IN THIS YEAR... New micro-wave communication system put in service between Galveston and Beaumont, Texas... New freight classification yard will be opened at Belen, New Mexico.

AND IN THE NEXT YEAR... More curves will be clipped, more grades reduced... 119 new diesel units will go to work... New modern diesel shops will be completed... 3600 new freight cars will be placed in service... New electronic communication and control equipment will be installed... and El Capitan will be re-equipped with all new chair cars!

AND IN THE NEXT 5 YEARS... New cars and whole new trains will be rolling on an ever *newer*, greater Santa Fe.

It costs Santa Fe millions (not one penny from the taxes you pay) to keep America's New Railroad *growing newer every day.*

SANTA FE SYSTEM LINES

PROGRESS THAT PAYS ITS OWN WAY

Schlumberger to Hold Open Conference

Interpretation and discussion of well-surveying operations and devices in oil drilling and production will be the main order of business at the Schlumberger Interpretation Conference scheduled for April 14-15-16-17 in Los Angeles.

M. E. Loy

Attending will be engineering and production representatives of major oil companies actively engaged in drilling operations in California.

The four-day session will also provide these oil men an opportunity to get together and talk over problems of mutual interest in all phases of drilling and production operations. Top Schlumberger experts from oil centers all over the country will be on hand to answer questions.

Host for the meetings is Schlumberger Well Surveying Corporation, national service organization and leader in well-surveying operations. This is the first such conference ever held, according to M. E. Loy, acting area manager of Schlumberger in Los Angeles, who will preside.

"Purpose of this conference is to bring to the oil industry in California the latest and most complete symposium on proper interpretation of well-surveying data and results, and to help engineers and production men to take fuller advantage of these findings in their drilling and production operations," stated Loy.

"While well-surveying is now an established key function in drilling and production, it is at the same time a complex operation and is constantly coming up with new services to aid the oil business. The oil industry has asked for an interpretation and clarification program to keep abreast of developments in this phase of oil operations, which is why we have arranged this conference," Loy added.

Among the subjects which will be covered are the new Laterologging and Microlaterologging services, as well as Foundation and Interpretation of the S. P. (Self-Potential) Curve, Resistivity Curve, and special devices such as Microlog, Induction Log, Lateral Log and others.

Top Schlumberger experts will conduct discussions of these and similar related subjects and answer questions and consult on other operating questions and problems.

Invitations are being extended to oil men from all drilling and production areas in California. Information concerning the conference and arrangements for invitation may be obtained by communicating with M. E. Loy, Schlumberger Well Surveying Corporation, 612 South Flower Street, Los Angeles.

H. L. Samuelson, manager of executive development program of Standard of California, was a principal speaker at the meeting of the Fire Underwriters Association of the Pacific at the Palace Hotel in San Francisco. He stressed the importance of executive development and described his company's methods in this direction.

Dr. Thomas F. Doumani, Union Oil Company, was chairman of the recent and very successful 123rd annual meeting of the American Chemical Society held in Los Angeles. At the opening session, Prof. Howard J. Lucas, a pioneer in chemistry teaching methods and for 40 years on the California Institute of Technology staff, was presented with the $1000 scientific apparatus makers award.

Roger Henquet Opens New Offices in Paris

The many friends of Roger Henquet will be interested to learn that he has opened offices at 6 Avenue Franklin Roosevelt in Paris.

Roger Henquet

Mr. Henquet was, until recently, the Eastern Hemisphere representative of the Superior Oil Company. Upon their withdrawal from this area, he opened his own offices under the name of "Societe D'Etudes Petrolieres."

The activities of his new organization include representation of American concerns interested in oil development east of the Atlantic, geologic investigation, negotiation of contracts and oil development promotion, as well as assisting oil tool manufacturers in inter-exchange of licenses between the United States and Western Europe for the manufacturing and development of oil tools and methods.

Several well-known American concerns have already taken advantage of the opportunity to have a person of Roger Henquet's standing represent them in Europe. His staff includes geologists, petroleum and mechanical engineers with many years of European experience.

Mr. Henquet is best known through his many years as general manager of Schlumberger Well Surveying Corporation, for whom he was one of the pioneer representatives in the States.

Oil helps him haul a priceless cargo . . .

The most priceless cargo of all – human beings. He carries your kids to school . . . your wife to the village to shop . . . GIs homeward bound. He and others like him deliver over eight billion folks a year – on time, comfortably, safely. Oil helps him to do this job. Over 5000 bus companies operate today in our free economy. The result: the best bus service in the world. The Texas Company takes pride in its leadership in supplying this vital field of transportation.

The Texas Company

TEXACO

Pictured above is A. G. "Jack" Mulkey, Division Manager for Waukesha Motor Company, who will serve as Technical Chairman for the Los Angeles meeting of the members of the Society of Automotive Engineers.

This meeting will be held on April 16 at the Rodger Young Auditorium, Los Angeles.

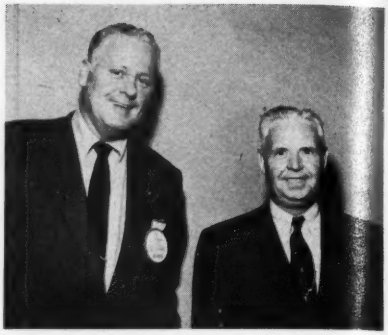
Prominent Oil Men Join Directors of Boys Camp

Three outstanding West Coast oil executives, Messrs. H. R. Hamilton, president of the Huntington State Company, J. W. Hancock, president of the Hancock Oil Company, and S. Z. Natcher, assistant to the vice president of Standard Oil of California, were elected to terms on the board of directors of the R. M. Pyles Boys' and Girls' Camp at the annual meeting held on March 2 at the Biltmore Hotel.

They join other well-known coast oil men in offering their services to the administration of this philanthropic project founded in 1949 by R. M. "Uncle Bob" Pyles to assist underprivileged children to build health, character and good citizenship.

The camp is located along the Kern River in the Sierra National Forest near Springville; where, during its four years of operation, 700 needy boys from 34 California cities have enjoyed all expense paid summer vacations sponsored by contributions from personnel of the petroleum industry.

Plans have been made to accommodate 320 boys for two weeks each at the camp this coming summer. The program will include fishing, swimming, horseback riding, hiking, sports, and nature study under the guidance of expect counselors.



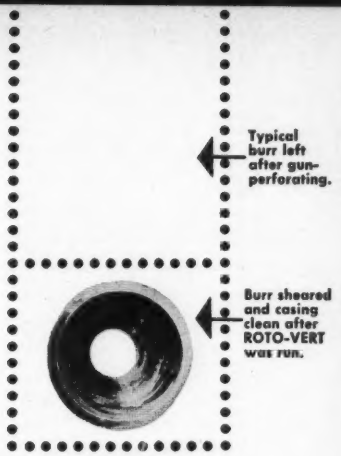
Jim Hughes (left) of Lane-Wells Company, President of the Los Angeles Chapter of Nomads, with James Course of C.C.M.O. who told the Chapter of his exciting adventures in Japan and the Orient before and during World War II at the regular dinner meeting of the Chapter on March 11, 1953.

Other prominent California oil veterans serving on the board of directors are: Messrs. S. F. Bowlby, Shell Oil Company; F. E. Fairfield, Oil Tool Corporation; J. E. Gosline, Standard of California; L. C. Graves, Southwest Exploration Company; R. H. Green, Signal Oil and Gas Company; J. M. Hillman, Hillman-Kelly, Inc.; L. L. Hillman, Loren L. Hillman, Inc.; F. Huntsinger, Ventura Tool Company; W. G. McComiskey, Signal Hill Electric Company; P. S. Magruder, General Petroleum Corporation; F. A. Morgan, Richfield Oil Corporation; G. C. Pilkington, The Texas Company; A. C. Rubel, Union Oil Company; R. C. Schweitzer, Southwest Exploration Company; and W. A. Smith, W. A. Smith and Company.

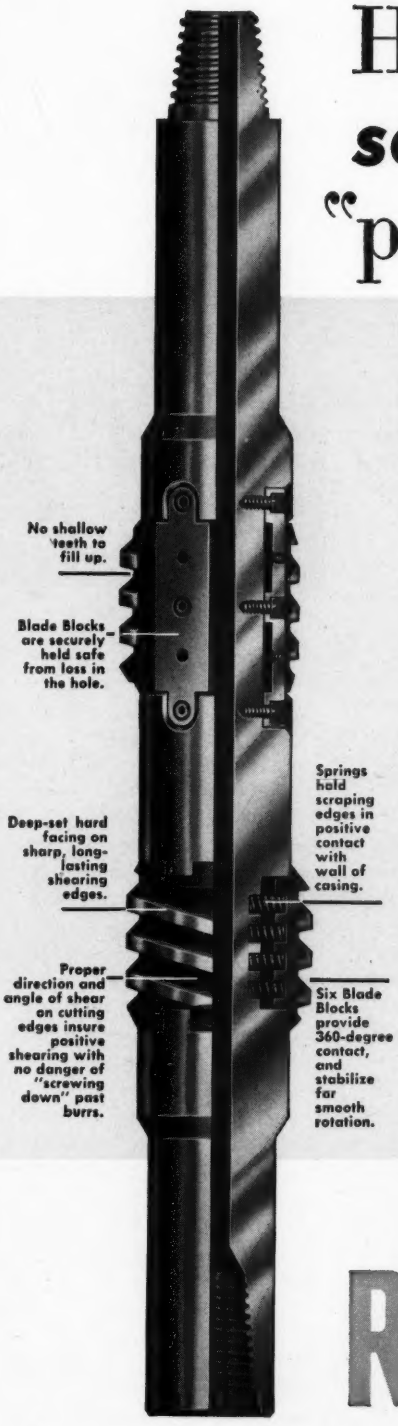
Christopher Schirm, former California oil operator, is now president of the American Uranium Corporation, with offices at Salt Lake City, Utah, Grand Junction, Colo., and Las Vegas, Nev.

Robert Keesee, Jr., 13-year-old son of Robert H. Keesee of Shell Oil Company's coastal production division, has been selected to serve on the junior advisory council of the California Newspaper Boy Foundation. Young Keesee was one of seven carriers in California chosen to serve on the council which met with the California Newspaper Publishers' Association in San Francisco recently.

Shown upon completion of their extensive tour of Union Oil Company's new $8,000,000 Research Center at Brea (Calif.) are the more than 100 members of Los Angeles Desk and Derrick Club attending and the company's officials in charge of the tour, Saturday (March 7th). The group then adjourned to Knott's Berry Farm as guests of Union for luncheon.



Here's why
SCRAPING YOUR CASING
"pays off"


No shallow teeth to fill up.
Blade Blocks are securely held safe from loss in the hole.
Springs hold scraping edges in positive contact with wall of casing.
Deep-set hard facing on sharp, long-lasting shearing edges.
Proper direction and angle of shear on cutting edges insure positive shearing with no danger of "screwing down" past burrs.
Six Blade Blocks provide 360-degree contact, and stabilize for smooth rotation.

Unless the inside of your casing—the vital "working surface"—is clean and smooth, there is always a possibility of trouble in future operations. Burrs from gun-shot perforations, hardened cement or mud, and even mill scale are all dangerous when the time comes to run testers or swabs, or to set retainers or packers of any description.

The Baker Model "C" ROTO-VERT Casing Scraper removes undesirable obstructions from the inside of the casing, leaving it clean and smooth. Burrs or imbedded bullets are sheared away; cement, mud and scale are scraped away, so that any down-hole work can be safely done at once, or during the years to come.

SCRAPE WHILE DRILLING OUT

The ideal time to use the ROTO-VERT Casing Scraper is during the drilling out of cement, at which time it is run as a "follow-up" behind the bit. Thus in a single run you can also remove all hardened cement, mud, burrs and scale which might later damage swabs or testers, and cause packers or retainers to set prematurely—or never set at all.

EASY TO RUN—LOW-COST RENTAL

The Baker ROTO-VERT Casing Scraper is simple to run, and will effectively clean the inside of the casing *when either rotated or reciprocated* (vertical action). No service man is required, and the low rental cost is paid for many times over by freedom from future damage to bailers, swab rubbers and packers, as well as by the elimination of future delays and re-running expense.

BAKER OIL TOOLS, INC.

HOUSTON • LOS ANGELES • NEW YORK

Call Baker for consultation and service . . .

BAKER

ROTOVERT

CASING SCRAPER

PRODUCT NO. 620-C

P·E·S·A PETROLEUM EQUIPMENT SUPPLIERS ASSOCIATION PARTNERS IN PETROLEUM PROGRESS

Security Engineering Appoints Roland O. Crawford Rocky Mountain Division Manager

Roland O. Crawford has been named Rocky Mountain Division Sales Manager for Security Engineering Division, Dresser Operations, Inc. A. M. Birnie, General Sales Manager, made the announcement, stating that Mr. Crawford will assume his new duties immediately.

Roland O. Crawford

Crawford has been actively connected with the oil industry and with the sale of oil field equipment since 1939. He first joined Security in 1946 and has worked in the Rocky Mountain, Illinois, California, and Texas areas prior to his recent promotion.

Mr. Crawford attended the School of Mines of South Dakota, and the University of Wyoming. He served five years during World II in the U. S. Army Engineers, being discharged in 1946 with the rank of captain.

In commenting on the appointment, Mr. Birnie said, "We are proud to have Mr. Crawford as our Rocky Mountain Division Manager. We know that he will maintain and extend the type of sales and service ideas that our customers have always appreciated."

Promotion of J. R. Dorrance to assistant division manager, Pacific Coast Division, Los Angeles, of The Texas Company's Producing Department, effective April 1, was announced by J. N. Troxell, general manager of the Producing Department, and J. H. Puls, division manager, Pacific Coast Division.

H. F. Ashauer replaces Dorrance as division geologist, Pacific Coast Division, effective on the same date.

Dorrance graduated from the Colorado School of Mines with an E. M. Degree and later took post graduate work in geology at the University of California at Berkeley. Starting as a geologist with the company in 1929, he advanced through various positions in the Geological Department of the Pacific Coast Division and has been division geologist since 1945.

Ashauer, who now replaces Dorrance, obtained his Doctor's Degree in Geology from the University of Goettingen, Germany. He started work with The Texas Company in 1936 and advanced through the positions of district geologist and senior geologist in the Pacific Coast Division.

R. M. Smith, Los Angeles, Calif., assistant to Continental Oil Company's western regional geologist, has been promoted to director of training for the company's production department, with headquarters in Houston, it was announced recently by E. W. Webb, vice president and manager of production.

He succeeds R. B. Sale, who was recently promoted to director of executive development for Conoco.

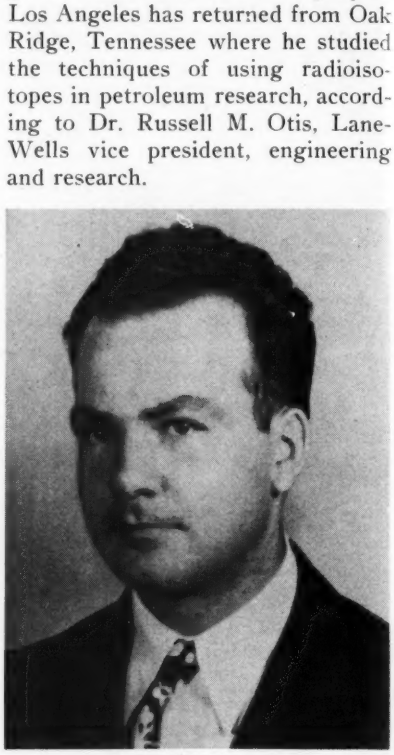
Mr. Smith joined Continental in 1948 as a geologist at Los Angeles and two years later was promoted to assistant to the western regional geologist. Previously he was associated for 12 years with the Panhandle Eastern Pipe Line Company at Kansas City, Mo.

He is a native of Kansas City and was graduated from the Colorado School of Mines, Golden, Colo., in 1929, majoring in geological engineering.

Eddie McAuliffe, one time ring great, is a principal participant in the leasing activity current in Merced County. He reported that he has blocked up acreage in all promising sectors of the county .

Lane-Wells Engineer Returns From Oak Ridge

Allen H. Flagg, geophysical engineer with Lane-Well Company at Los Angeles has returned from Oak Ridge, Tennessee where he studied the techniques of using radioisotopes in petroleum research, according to Dr. Russell M. Otis, Lane-Wells vice president, engineering and research.



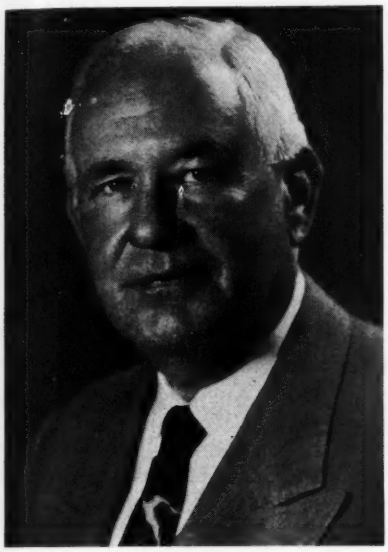
Allen H. Flagg

Radioisotopes, a product of the Atomic Energy Program, have valuable applications in well logging and surveys. Because of the traceable energy they emit, radioisotopes can be used to obtain more information than is possible with present methods. The use of radioisotopes will increase the knowledge of formations traversed by a bore-hole.

President Bob Minckler of General Petroleum was guest speaker at his company's San Joaquin Valley Foremen's Association meeting held at the Saddle & Sirloin at Bakersfield. Presiding at the meeting was Chairman W. W. Alving of Bakersfield. The speaker was introduced by George Happe of Taft. In attendance at the meeting were General Petroleum foremen from Bakersfield, Taft, Burrel, Coalinga, and other San Joaquin Valley points and from San Ardo in Monterey County. Bob Hart, introduced new members. L. H. Carroll, Taft; Roy Weaklend, Bakersfield; and Bill Ritchie, San Ardo.

Cape Joins Superweld Corp.

In line with the large growth of business and to provide better service to customers, Superweld Corp., specialists in electric furnace brazing and other technical metal processes has inaugurated a metallurgical engineering and research department under the supervision of A. T. Cape, nationally known metallurgist, who has been appointed Vice President-Engineering.



A. T. Cape

Cape comes to his new post with a broad background of technical experience in metals. For the past eighteen years he has been associated with Coast Metals, Inc. and Coast Reduction, Inc. as vice president and director of research and development. He has been a metallurgist with Carnegie Steel Corporation, Republic Research Corp. and Central Alloy Steel Co. From 1932-34 he was general superintendent, Timken Steel & Tube Co. of Canton, Ohio.

He is a graduate of the Royal School of Mines, South Kensington, London, England. Mr. Cape is the developer and patentee of more than 30 patents on ferrous alloys, hard facing weld rods, steel ingot production and other metal processes. Among the more significant contributions are the control of rimming steel ingots by the use of flourides, the slag control of open hearth furnaces, the development of patented hard-facing metals and the establishing of the principles of the reduction of iron ores to iron, especially the use and the mode of using sodium carbonate for the accelerating reduction of magnetite iron ores at low temperatures.

C. N. G. A. Round-Up at Newhall

Over 200 representatives of the three chapters of the California Natural Gasoline Association gathered in Newhall for their third Annual Joint Meeting.

Western costumes were the order of the evening with prizes for the best costumes going to Geo. T. Farquhar, The Douglas Oil Company and John Ohman, Rockwell Mfg. Co.

The program presented a takeoff on the prominent T-V panel show "What's My Line?" "What's My Job, Podner?", the name for the C.N.G.A. panel, presented guests with occupations not comparable to their own and not of a serious vain. Lloyd Jones, Cooper-Bessemer Corp. and Program Committee Chairman served as Moderator. The panel consisted of Lennie Leonard, Shell Oil Company. Bud Sulivan, Standard Oil Co. and Phil Mettling, Cooper-Bessemer Corp. The guests appearing before the panel were Fred Brunner, C. F. Braun & Co.; L. W. Barley, E. I. DuPont Co.; John Ohman, Rockwell Mfg Co. and Frank Partridge, Southern California Gas Company.

A showing of Shell Oil Company's latest picture "Oil, the Invisible Traveler" concluded the evening, at least the formal part of it.

Signal Oil & Gas Company's popular Eddie Stroud at Los Angeles is back at his desk following a short jaunt to the San Francisco Bay area in the interest of business. Eddie is in charge of the company's public relations department.

Mrs. William E. Simmons has been elected president for the ensuing year of the Petroleum Wives Association at Ventura. Mrs Richard G. Villa was named vice president, Mrs. Lyle W. Smith, treasurer; Mrs. Kurt F. Pilgrim, publicity chairman; anl Mrs. John R. Griffiths, representative-at-large.

John Raymond Leighter, Signal Oil company representative in the San Francisco district, died suddenly in an Alameda restaurant. An enthusiastic yachtsman, he was commander of the Pittsburg flotilla of the Coast Guard Auxiliary. A resident of Alameda, he was 57 years of age at his passing.

C. L. Parkhill, Parkhill-Wade; J. J. Delaney, and Lou Delaney, Reliance Regulator Div., American Meter Co. and Gordon Z. Greene.

Rocky Mountain NEWS

Colorado—Idaho—Montana—New Mexico—Utah—Wyoming—Western Canada

Montana

Another well along the Baker-Glendive anticline has found production, the Regent Drilling Co.'s No. 1 Schock, which swabbed at the rate of five barrels per hour. Preparations were made for further cleaning and testing before completing the well. The test is located in sw ne sw 22-34n-49e, in McCone County and is a mile and a half west of production in the Richey field.

Sun Oil Co. and Phillips Petroleum have set a new drilling depth record for Montana, having carried their No. 1 Dynneson in Richland County below 11,700 feet. Previous record for the state was a Shell Oil Co. duster in Big Horn County which was drilled to 11,519 feet.

Production from two zones at an initial of 83 barrels of oil per hour has been found by C. H. Murphy Jr. at his No. 21 Unit, c sw sw 20-29n-51e, Roosevelt County. Production was obtained from the intervals 5568-76 feet and 5586-96 feet and from 5738-70 feet.

Shell Oil Co. continues to head toward the Ordovician, expected at about 9,000 feet, at its Cabin Creek wildcat in Fallon County. The well made oil from the Madison. It was last reported drilling below 7865 feet.

A 9,000 foot test to the Devonian is being drilled by Cities Service in the Custer area of Yellowstone County. At last report the well was below 4645 feet. The First Cat Creek sand was topped at 4590 feet.

Johnston Stainless Welding Rods

PROVEN QUALITY SINCE 1931

•

A. P. JOHNSTON

1845 E. 57th St. - Los Angeles 11, Calif.

North Dakota

A wildcat by Amerada Petroleum Corp. in Billings County will be watched with interest. The test, the No. 1 May, is at the north edge of the town of Fryburg and is outside the Nesson anticline area. Location is c nw ne 9-139n-100w.

Ward-Williston Drilling Co. recovered 42 gravity oil on swab tests at the No. 1 Klokstad in the Turtle Mountain area in Bottineau County. Production was from the zone below 3070 feet. The location is c ne nw 36-164n-79w.

National Associated Petroleum will drill the No. 1 Newhouse, c ne se 3-162n-79w, also in the Turtle Mountain area. It will be a test to the Madison, and Sohio, Lion Oil, the California Co. and Hunt Oil are joining in the venture.

Amerada Petroleum and Signal Oil and Gas will build a $15,000,000 plant near Williston to process gas from the Beaver Lodge-Tioga fields. The plant will handle 40,000,000 cubic feet of gas per day and is expected to produce 150,000 gallons of natural gasoline and liquid petroleum gas and 40 tons of sulphur daily.

Wyoming

Wildcatting activity was picking up after the midwinter slump, with two new tests slated and others reportedly planned. Two Tensleep tests were scheduled, one in the Lake Valley area of Carbon County by the Sinclair Oil and Gas Co. and another in Washakie County by Sohio. Sinclair will drill the No. 1 Harold L. Nutting two miles north of the Hatfield Dome, and Sohio will drill the No. 1 Government-

Travis in the Bruce Dome area, northeast of Black Mountain.

Delhi Oil Corp. will drill a series of tests in the area northwest of the North Byron field in Big Horn County. The company has staked location for the first wildcat, in sec. 16-56n-79w, which will be started May 1. The tests will be on acreage farmed out by Delta Drilling Co.

Extension of the South Glenrock Pool in Converse County was indicated after Far West Oil, Hancock Oil and Continental Oil found 240 feet of oil and gas cut mud at their No. A-1 VR Ranch. Recovery was from the interval 6195-6219 feet, apparently the Muddy sand. The well, c se se 26-33n-76w, is two and a half miles southwest of South Glenrock production.

True and Brown are drilling a confirmation test to their Donkey Creek discovery in Crook County. Meanwhile, the discovery itself was undergoing further tests.

Colorado

Forest Oil Co. was coring ahead around 5275 feet at its No. 1 Causey, wildcat in the Barger Creek area of Adams County. The well, located in ne sw nw 23-2s-57w, is four miles southwest of the very active Little Beaver field. In a drill stem test of the J sand, from the interval 5262-72 feet, 2480 feet of gas cut oil was recovered..

The Don Johnston Drilling-E. M. Craig No. 1 Budin in Logan County was brought in for an initial gas production of 8,000,000 cubic feet per day from J sand, which was topped at 5342 feet. The gas was cut with condensate and light oil. Operator was planning further tests. The well, in sw sw ne 6-8n-45w, is two and a half miles west of the Yenter field..

Two miles southwest of the Yenter field, Ryan Oil-Falcon Seaboard and Allied Materials Corp. recovered 375 feet of oil in a test of the J sand at their No. 1 State, nw nw nw 16-8n-54w.

In the Keota area of Weld County, Sherrod and Apperson reportedly found good oil shows at their No. 8 Gillette, c nw nw 9-9n-61w. The recovery was from the Permian, first commercial oil showing below the Cretaceous in the Denver-Julesburg Basin. The test is being drilled as a tight hole, with no information thus far released by the operator.

Triangle J. Oil was continuing tests of the No. 1 Kugel, Hogsett & Hartman, which was rated for an initial of 10,348,000 cubic feet of gas per day. The well is in Washington County and is a mile north of previously established production in the Little Beaver field.

Utah

General Petroleum Corp. failed to find production at its No. 1 Unit in Uinta County, in the southern portion of the Uinta Basin, and abandoned the test. The well was drilled to a total depth of 8036 feet.

New Mexico

Although Humble Oil and Refining Co. is drilling its No. 1 Santa Fe and Pacific in Valencia County as a tight hole, there have been reports of oil shows. The test was last reported below 5820 feet.

Western Canada

Imperial Oil has announced plans to build a $10,000,000 lubricating oil plant at Edmonton. This will be an addition to the company's present facilities at Edmonton. Work will be started in 1954 and is scheduled for completion the following year. Capacity will be 750,000 barrels of motor and industrial oil annually.

Four companies, Canadian Gulf, California Standard, Husky and Phillips Petroleum, have staked location for a new test in the Pigeon Lakes area southwest of Edmonton. The new well will be Gulf C.P.R. Fiveland 10, in 1sd 10 of 3-46-28w4. The companies previously drilled Fiveland Six, half a mile to the southwest, obtaining production in that test.

Sturgeon Petroleums and associates were preparing to complete their Sturgeon - Merland - Mitmor - Thurston Developments Wapella No. 1, which found production in the Jurassic, topped at 2305 feet. On drill stem test the operators recovered 250 feet of clean oil. The well is in the Wapella, Sask., area and was drilled on a farmout from Crystal Oils Ltd.

Amerada Petroleum Corp's Crown R F 3-19 was being closely watched as indicating discovery of a possible new oil field in the Sturgeon Lake area. Tests in the D3 Devonian between 8699 and 8715 feet recovered 100 feet of oil. The well is 15 miles southeast of the Amerada Crown F 33-32, which was proved for production last fell. It was uncertain, pending further testing, whether production in both cases was from the same reef and thus indicating a continuous field.

Shell Oil Co. has announced establishment of a Rocky Mountain Exploratory and Production Area organization with headquarters in Denver, Colo. The office, a result of expansion of Shell activities in the Rocky Mountain region, will be under a vice president and will coordinate company activities in Montana, North Dakota, South Dakota, and eastern Colorado. Over-all responsibilty for this region is presently divided between Shell's area offices in Los Angeles and Tulsa.

W. A. Alexander, vice president of Shell's Tulsa area, will be in charge. He will arrive in Denver about August 1, and the new administrative organization is expected to be completely established by January 1, 1954.

Gill Awarded Contract by Atomic Commission

The J. B. Gill Company, Long Beach, California, has been awarded a $925,000 contract by the Atomic Energy Commission for the construction of a cooling tower basin and pump house complete with mechanical facilities and piping. The project is located at Paducah, Kentucky, and will be handled by the Gill Company's Tulsa Office. Work started March 16, and will require approximately ten months to complete.

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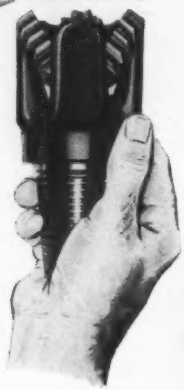

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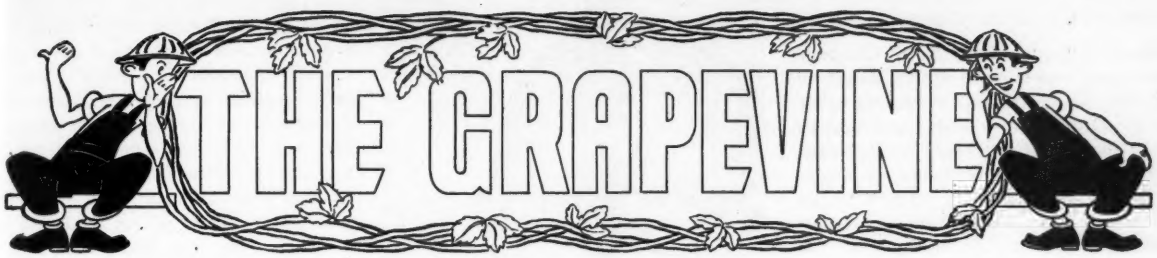
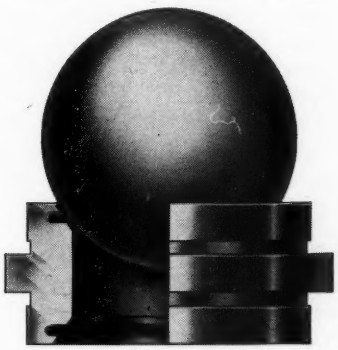


On Monday, March 16, we foregathered with a stash of very important people at a luncheon in the West Room of the Petroleum Club, hosted jointly by that distinguished looking chap, John Lucas, president of the Southwest Welding & Mfg. Co., and Fred Currie, one of California's most successful manufacturers' representatives. The affair was staged in behalf of Earle Jorgensen, the noted steel magnate, who, it appears, was about to plunge into the maelstrom of matrimony. It brought together a group of business men, most of whom have been pretty close to Earle over the years and all of whom paid high tribute to his fine character.

Somehow we found it difficult to understand how this bronzed, vigorous, pleasant, young-looking lad, could have started so many apparently older men on their way to success. It can only be that since Earle has been kind to people down through the years, the years have been kind to him. We, personally, can testify sincerely to the warming friendliness of the guy—he simply oozes genuineness from every pore. We have known him by repute for a long time, but first actually met him some 6 or 7 years ago at a Nineteeners whingding, and from the moment we were introduced, he began to call us "kid", just as he does all his friends. And never since have we run into him anywhere that he didn't come up with that infectious grin and give us the old glad hand as if he really meant it.

There is room for a lot more Earle Jorgensens in the world. On his way to success he made more friends than a high school blonde with a Cadillac convertible, and he isn't forgetting them now. Neither are they forgetting him, and all the little assists (and big ones, too) so many have received at his hands. That was obvious in the testimonials that were leveled at him by the guests at the Lucas-Currie festival. Of course, it was a bachelor affair, so Earle took quite a ribbing, too, but by and large, the whole gesture was as nice a tribute to a nice guy as we have seen in a long time.

Among those present to do honor to the Jorgensen scion in his last moments of bachelorhood, was Bill



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Hudson Drake, the Belridge Oil Company purchasing agent, is a native Angeleno who has done right well for himself in his home bailiwick. He attended Los Angeles High School and University of California at Berkeley and finally began work with Belridge back in 1923 as a clerk in the purchasing department. Through various promotions, and after garnering a stash of useful information, he made the top grade in his department, and is now quite a pumpkins both inside and outside of the Belridge Oil Company. He is chairman of the oil company buyers group in the Los Angeles branch of the purchasing agents association, and is also on the convention committee for the grand national congregation of purchasing agents that will take place at the Statler, May 24 to 27, inc. He was long active in Junior Chamber affairs, is, indeed, a former director of the Los Angeles Chamber, and was given the Durward Howes awarded in 1933 for excellent work in the field of winter sports promotion.

Hud used to do a little bowling by way of exercise and occasionally went on a fishing trip to find relaxation, but in recent years he has devoted himself more to the rearing of such horticultural delicacies as camellias, gardenias, cymbidiums, etc., with which he beautifies his home out on the edge of the San Gabriel Country Club. But most of all he is famed as the chief purveyor of animating aquas for the Petroleum Production Pioneers. Ever since George Trembley relinquished this eminent post, Hud has taken over and has performed with distinction. He has organized a mighty colorful group of jigger jugglers who have carried on in the finest tradition of the jigger juggling profession, and have actually become an almost indispensable part of the western petroleum scene.

He is the proud daddy of two boys, one of whom is a mechanical engineer with Emsco and the other a freshman at Pasadena City College. He has one married daughter who has been kind enough to provide him with two grandchildren on whom to dote when he isn't busy with other matters, a privilege of which he takes full advantage. Altogether, Hudson Drake lives a constructive and fully enjoyable life and he is by all measures a citizen well worthy of our respect.

Zander, senior vice president of Rheem Manufacturing Company, who himself took the matrimonial plunge about two years ago and is still pretty happy about the whole thing. Bill has spent some 25 years with Rheem, one year of it down in Australia. In his spare moments he dabbles in photography and is said to turn out work of really professional caliber. We have never been quite able to understand, incidentally, how a professional camera man has the nerve to ask you to look pleasant after telling you the finished prints will be $80 a dozen.

Hugh Glen, retired board chairman of Emsco, was also present and sang one of his own compositions, written many years ago in honor of Earle Jorgensen. Can't remember all of it, but it ended with a couplet, something like this:

"Whatever he does or he doesn't do, He's the star of Republic Steel."

It has been reported that Hugh Glen retired in order to devote himself more fully to the guitar which he plays with the loudest right foot in captivity. Next in line at the luncheon table was another noted musician, C. H. "Jascha" Tuttle, Standard Oil Company purchasing whiz and a genius of the Guarnerius, who bats out classic or non-classic renditions with a rare verve (That's "verve", son!) He is by far the best known violinist in these parts, although a fiddler, named Fawcett from the Lufkin School of Music, has been casting asparagus at him something awful. Then there was Charlie Perkins, Union Oil Company's popular purchasing biggie, probably the best southpaw gin rummy player ever to be born in Los Nietos. Charlie also flails the fairways of the local golf courses with more fervor than finesse but, nonetheless, in any kind of speculative enterprise, he is mighty tough competition.

From Security Engineering Corp., came president, Ott Hammer, native Californian, a Standard grad, and a friend of Earl Jorgensen since the days of his (Ott's) connection with the old Brea Oil Tool Company. Ott is a much traveled individual who is also given to occasional forays in the gin rummy field. Once he beat Bob Cook 15 straight games and suggested somewhat sarcastically to Bob that it was time he learned to play the game. Whereupon Bob turned around and beat Ott for 16 straight games. Much in evidence was Bill De Ridder, chairman of the board of General Metals Corporation, who too had dealings with Earle Jorgensen when the rest of us were mere children. Bill was born in Amsterdam, Holland, sings a Dutch chanty when the circumstances are right, and plays a game of golf that in spots has a remarkable resemblance to golf.

Next in line was Paul Whiteley, manager of purchases for the House of the Winged Equine, and by all means one of our better citizens. Paul has few of the minor vices. He just likes to satiate around with people and he is right good company at any time. He plays a bit of gin rummy but shuns such exasperating exercises as golf. He is a Nineteener, however, and appears to enjoy watching other people exasperate themselves. Accompanying Paul was that amazing citizen of New York, Bill Beck, the purchasing executive from Socony Vacuum Oil Company, who brought greetings from Joe Taylor, and with them combined his own very neatly. Bill is a past Big Shot of Nineteeners, past governor of the Downtown Athletic Club of New York, a former member of Siwanoy Country Club of Bronxville, and is known and liked by more people than Little Orphan Annie.

Another interesting guest was Lionel Sirocco, district sales manager of Bethlehem out this way, variously known as "Tony" and "Siroc". He is a tall, fine looking chap, with loads of personality—formerly managed Bethlehem's local plant but finally turned to sales, and is now rated one of the best sales execs in the business. Siroc was once a pretty sharp golfer, in fact, is a past president of the Wilshire Country Club, but his pastime now is singing. He was song leader of Vernon Rotary Club for a while and still is quite unable to resist these sporadic quartets that spring into being wherever men gather. He has a son, we are told, who has inherited the family love of music and is at the moment studying for a doctorate in the subject.

After Siroc had paid his respects to the guest of honor, Al Collins, Mr. Purchasing, took over. Al has been with Shell Oil Company for a trifling 45 years and looks good for another 45 years. It is quite popularly believed that Al started the oil industry in America, but an upstart by the name of Colonel Drake has butted into the argument and as we write, the Collins title is badly clouded. Following Al was Bert Kelly, Richfield's purchasing chief, another tall, handsome chap, who originated in Newcastle-on-Tyne and still has a bit of that English distingue in his presence. He is a stout proponent of the big league soccer team, Newcastle United, and is a much admired person hereabout. Last on the guest list was Bill Kinder, the Emsco veep, a Coalinga boy who probably little thought that one day he would be the mayor of Garland. Bill has long been the sucker rod expert of the west coast and as such has had frequent contacts with Earle Jorgensen. In fact, he worked for Earle at one time, and recalled at the party some highly interesting results of their relationship. Bill just popped in from Dallas in time to take part.

When the guests, one after another, had delivered their eulogies, John Lucas and Fred Currie, the co-hosts, added further chapters of the Jorgensen saga, and wished Earle the most of the best. They even had a wedding cake made for the occasion with a lonesome groom on top and in all respects exercised themselves to let Earle know that he was highly regarded people. In the end, Earle took the rostrum himself and in a neat few words thanked everybody for their help down the years and this current expression of friendliness which he thought was wonderful. It was really a nice occasion and we felt that it was a privilege to be present.

The other morning we mounted the forward deck of the family chariot and adjusting our stogie to a particularly rakish angle, we steered out in the general direction of Brea, the biggest little town in America. At the end of Telegraph Road we slipped into a service station and had hardly chucked a mooring halyard ashore when we were rammed viciously astern by a big hulk of a boat, twice the size of our own. It made us mad and we dashed around to the other craft with fire in our eye, resolved to give the skipper a nasty bit of our mind, but when we saw the size of the guy, we merely said and very sweetly too, "Good morning!"

It was Pete Maxfield, the Nordstrom fellow, formerly known as the La Habra Heights colossus. Pete is just a bit smaller than all get out and we have heard it rumored that he rises early every day and chins himself a dozen times on Mount Baldy just to keep in shape. Personally we think this is a gross exaggeration which is pretty bad because a gross exaggeration is twelve dozen times more exaggerated than exaggeration, if you get what we mean. Anyway, having beamed at Pete as if we simply loved being belted in the back, we transferred to his particular pedestrian ram and off we went into the hills in search of Nordstorm valves.

This Maxfield has the most astonishing eyesight we have ever known. He can spot a one-inch Nordstrom valve on the top tier of a Shell Company cat cracker while he is motoring by on Truck boulevard. As a matter of fact, he is having his

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eyes treated right now because he missed one on a Union Oil Company gas tank at Oleum while he was sailing down the Carquinez Strait in a putt-putt. He peers about in his search for NV's with all the intensity of a bespectacled bird nester, and if he ever comes across an installation that doesn't have one, his grief is heart-rending to see. On the other hand, the screams of joy he emits when he stumbles on a row of them as we did that morning, are as elevating as a quadruple martini.

While we prowled about the Puente Lease, we ran into two pleasant young chaps, to wit, Bill Faulk and Chuck McCollough. Bill was hobbling about on crutches, nursing a broken leg, anent which we shall discourse presently. He, as nearly as we could determine, was a design engineer with Shell Company and had finished his academic training at the noted Berkeley institute, University of California. Chuck was a geology grad from the Colorado School of Mines, and he was being briefed, as a trainee, by Bill Faulk on some of the interesting things that are going on out Brea way.

But, it was over at Knotts Berry Farm while we were eating lunch that we learned the story of Bill Faulk's broken stem, and it was quite amusing. It appears that Bill was skiing up in Snow Valley one weekend and as he coursed down a mild slope, he came upon a lad sitting outside of a small cabin sunning himself in a camp chair. When he drew nearer, Bill noted that his leg was in a cast and that his crutches were standing close by. Bill slalomed over to the guy and after a few opening remarks, asked him, "What happened to the leg?" "I broke it doing a christie," says the cripple. "'Z at so! What's a christie?" continued Bill, and the fellow told him exactly what it was and how to do it. Bill went back up the hill a bit, carried out his mentor's instructions to the letter, and the very first time he "christied", wound up with a broken leg of his own. You know, broken legs might become epidemic if that sort of thing is allowed to continue without interruption!

Had a little note from Leo Goss all the way from Beirut, Lebanon, recently and he seems to be enjoying himself over in that very historic area where, by this time, incidentally, he has probably spudded a well. Leo is one of the Santa Fe Drilling Co. higher-ups and is well and favorably known around the California oil circuit, especially up Santa Maria way. His hobby is attending what he calls "bull eating contest" with the Petroleum Production Pioneers and, come to think of it, that is a nice pastime. Anyway, we hope Leo won't miss too many of them and we'll be looking forward to hearing some spicy gossip from the bazaars of Damascus and the bordellos of Baghdad, come his return.

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Radioactive Gas Undergoing Tests

Radioactive gasoline is the subject of tests directed toward giving motorists even more miles for each gas dollar, two DuPont chemists told the American Chemical Society's national meeting in Los Angeles. Drs. Harold P. Landerl and Bernard M. Sturgis, chemists of E. I. DuPont de Nemours, outlined the tests. They explained that ignition of the radioactive gas in a car engine causes radioactive lead particles to be deposited in engine cylinders together with the usual gas and oil waste deposits which the chemists are endeavoring to eliminate. The radioactive lead in the gasoline takes a picture of itself when an X-ray film is placed over the cylinder deposits and this indicates exactly where the lead has settled. The tests under way make it possible for the first time to study cylinder sludge as it is being formed. When more is learned on how waste materials are created, the scientists will then seek out ways and means to prevent them, they said.

Saudi Arabian Oil Arrives At Los Angeles

The Texas Company's mighty 27,000-ton tanker, the Kentucky, has arrived at Los Angeles Harbor with the first Saudi Arabian crude oil to be brought into Southern California in an American ship. The cargo of 190,000 barrels of oil will be put through Texaco's refinery at Wilmington. Shipping men said the tanker, which is new, is one of the largest afloat with a capacity of 240,000 barrels. The oil was transported by pipeline from Saudi Arabia to Siden, Lebanon, where it was picked up. Some weeks ago a like amount of crude was brought to Los Angeles Harbor by a British tanker.

Field Development

Los Angeles Basin Adds New Discovery

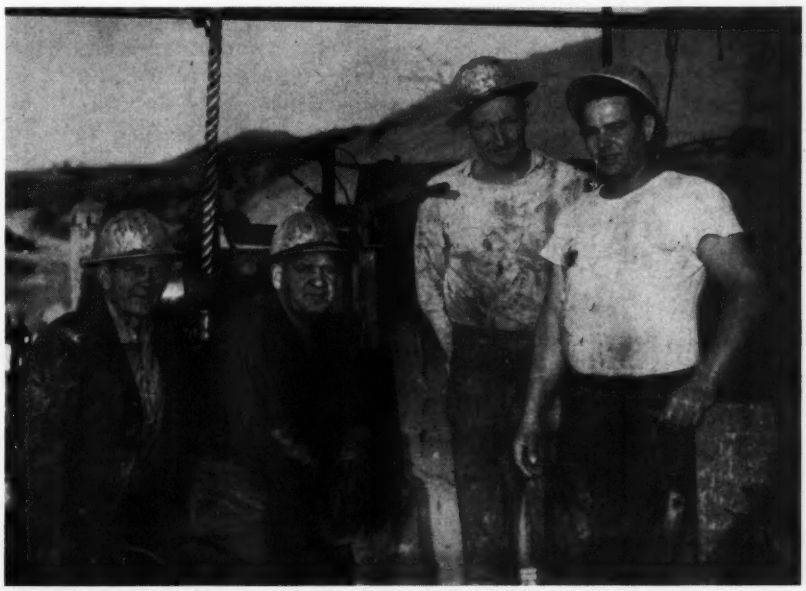
Recent events in the Los Angeles Basin were accentuated by a new discovery in the Leffingwell area between fields at Santa Fe Springs and West Coyote. Credit for the find goes to Hathaway Company, which put down Woodward No. 1 wildcat on Sec. 11-3s-11w in eastern Los Angeles County to a depth of 8792 ft. for a current yield of 216 barrels of 36 gravity oil a day along with considerable gas. On original production test the well flowed at the rate of 720 barrels of oil a day under restrictions. Gas yield was more than 4,000,000 cubic ft. daily. The 6⅝-in. casing was landed at 8686 ft. and cemented through perforations at 6370 and 8484 ft. Interval perforated was 8486-8686 ft. Location is northeast of a discovery uncorked by Standard in 1946. The Standard endeavor was encouraging to a point that company officials in San Francisco came south to view the final touches. Sand, however, proved tight and production consequently failed to rise much above 100 barrels daily and in not too long a time the well dwindled to nothing after accounting for a total yield of 20,000 barrels. Concensus of geologists is that the Hathaway well is on the same structure as the Standard wildcat, but the new find is some 2000 ft. deeper and found obviously better permeable sand. The well is on Ocean avenue, between Santa Gertrude and Stamy avenue, east of Whittier. Other operators with land leased in the area include Union, Standard and Signal Oil & Gas.

R. W. Jerman and F. R. Bartee's Comm. Lease Three No. 1 well on Sec. 33-4s-12w in the Long Beach area has been completed on the pump at 8764 ft. for 50 barrels of 30.5 gravity oil a day. The latest word from M. J. R. Oil Company's Ella No. 2 on Sec. 30-4s-12w indicated water was being pumped from a total depth of 2423 ft. The Texas Company, Carlton Beal & Associates, Delaney Petroleum Corporation and Meeker & Garner are among other operators at present active at Long Beach.

Derricks Pulled Down

The city of Long Beach continues to move ahead with its campaign to eliminate wooden rigs deemed not entirely safe by municipal authorities. Two 130-ft. wooden derricks were pulled down the other week at 31st street and Atlantic avenue and at 31st street and Long Beach boulevard. They were put up in 1924 when Signal Hill was booming. The wooden structures had reached a point of deterioration where they showed a pronounced disposition to sway during windstorms. The proprogram for the elimination of wooden derricks was inaugurated three years ago and at that time there were about 170 of them in Long Beach.

In the San Fernando area, Intex Oil Compay's Toon No. 1 wildcat on Sec. 1-2n-15w near the intersection of Foothill boulevard and Fillmore street is making rapid progress with the drill at 2980 ft. Petrie Drilling Company is in charge. On Sec. 2-2n-16w not far from where Rinaldi and Zelzah streets cross one another, Standard's Mission No. 6-1 on Sec. 2-2n-16w has reached 2000 ft. and is going down. Rocky Mountain Drilling Company has a contract rig working for Standard's Ward No. 2 on Sec. 27-3n-16w in the Aliso Canyon area. Drilling is at a relatively shallow depth. The new Standard-Trousdale-Sterling well on Sec. 35-5n-17w in Castaic Hills is presently producing 415 barrels of oil and 160,000 cubic feet of gas a day from a total depth of 6550 ft. Production is under restrictions. The company's Golden



Standard's Golden 75-2 in the Castaic Hills field with Dunlap and Graham handling the job. Left to right: F. E. Burress, cathead; Henry Lightner, driller; Ted Hodges, derrick; Earl Caldwell, racker.

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No. 55-3 on the section is drilling at 2140 ft.

Southeast of Oak Canyon, Filmland Oil Company's Martino No. 1 on Sec. 5-4n-17w is still performing with the drill around 6750 ft. Along the Ocean strand at Playa Del Rey, Donald Frankel, operator, is all set to deepen from 7474 ft. Kidson No. 1-1 on Sec. 22-2s-15w, which first flew the banner of Bolsa Chica Oil Corporation. The original operator found some oil, but production failed to endure in a commercial fashion. Frankel by deepening the venture is hopeful that final results will be more on the brighter side.

Fluor Try Works

In the Central Manufacturing District of Los Angeles, General Exploration Company's Fluor Corporation No. 1 wildcat well on Sec. 18-2s-12w is drilling near 8000 ft. The project was recently taken over by a group of independent operators made up of General Ex, Bankline, Bolsa Chica and Basin. Bankline put the well down to an original 6520 ft.

At Castaic Siding area, The Texas Company has abandoned its Newhall B No. 1 wildcat on Sec. 11-4n-17w at 8079 ft. Northwest of Saugus, Texaco is about to spud its Newhall No. A-2 test on Sec. 8-4n-16w. At Del Amo, the company's Del Amo NCT-One No. 1 test on Sec. 2-4n-13w was last reported going down at 6700 ft. On wildcat ground near the West Coyote field, that phenomenally successful operating team—Ted Sterling and Paul W. Trousdale — are making hole around 7960 ft. with McNally No. 1 on Sec. 23-3s-11w. Atlantic Oil Company is the contractor.

The Granada Hills area is receiving the attention of Sunray Oil Corporation. There the company's Rydell-Haas Comm. No. 54-14 wildcat on Sec. 14-2n-16w near the corner of Devonshire and Zelzah streets is digging at 5975 ft.

In the Aliso Canyon area, Tide Water Associated is all ready to commence drilling operations with its Fernando No. 2 on Sec. 27-3n-16w.

Over in the Newhall area, Russ Watkins has added Needham No. 2-2 wildcat on Sec. 12-3n-16w as a producer of 35 barrels of 22 gravity oil a day from 1848 ft. Initial cut was about 9 per cent.

Richfield has obtained a new producer at East Los Angeles. Its CMD No. 1 wildcat on Sec. 16-2s-12w came in from a plugged depth of 8546 ft. flowing at the rate of 106 barrels of 34.2 gravity oil a day through an 18/64-in. orifice and cutting 5 per cent. On the Rynne-Fisher lease on the Honor Ranch, the company is working on preliminaries on its No. 44-25 on Sec. 35-5n-17w. Signal Oil & Gas Company also is interested in the East Los Angeles area. Its CMD No. 1 test on Sec. 10-2s-12w is digging at 4561 ft.

North of Castaic Hills production, Morton & Dolley has just spudded its Radovich No. 1 wildcat on Sec. 26-5n-17w. Some years ago two shallow wells were drilled in the vicinity of the new effort. Both picked up promising oil shows, but a water problem resulted in an unfortunate end to the campaign.

Bottom in basement rocks at 1260 ft., Grober & Associates have pulled out of Estes No. 1 exploratory hole on Sec. 21-12s-4w at Oceanside, San Diego County.

In the Sunset Beach area, four miles southeast of the Seal Beach field, Surfland Oil Company's Anaheim Sugar No. 1 explorer on Sec. 16-5s-11w is drilling at 4960 ft. Contractor is Ben Owens.

Northeast of Anaheim, The Texas Company's wildcatting Dinkler No. 1 venture on Sec. 7-4s-9w continues to probe for new oil around 5900 ft.

At Garden Grove, Superior Oil Company's interesting Garden Grove Unit No. 1 wildcat on Sec. 28-4s-10w has passed the 2200 ft. level and is digging deeper.

Standard's Sunny Hills wildcat near West Coyote on Sec. 21-3s-10w is exploring at a depth last reported of 7430 ft.

Shell Oil's Wright No. 73-18 wildcat test on Sec. 18-3s-8w in the rolling Puente Hills is working. The drill is below 1800 ft. At Tonner Canyon, Shell is ready to launch a wildcat on Sec. 6-3s-9w, named Keeler Comm. No. 1.

Hathaway Company is bent on finding new oil in the Richfield area

with its Blattner No. 2 on Sec. 28-3s-9w. It is due to begin work shortly. Burnett Oil Company's School No. 1 wildcat on Sec. 33-3s-9w is preparing to drill under the expert hands of Petrie Drilling Company. Location is near Richfield and Placentia-Yorba roads.

Coast-Northern Wildcatting Grows

Blackwood & Nichols of Oklahoma City, which in recent months has recorded singular field success together with Macmillan Petroleum in Oklahoma's Logan County, is moving ahead with an interesting wildcat well in the Hollister Ranch area of Santa Barbara County. The well, Hollister No. 1 is on Sec. 31-5n-32w or about two miles west of Gaviota Pass. William Ross Cabeen & Associates are company geologists and engineers, posts they have held in the successful efforts in the Sooner State. In the Gaviota area, DeWitt Langford's Hollister No. 1 test on Sec. 34-5n-33w is still idle at a plugged depth of 2385 ft. The well was carried to a total depth of 2589 ft. Union Oil Company is drilling in the relatively shallow formation with its Jesus Maria No. 46-3 test on Sec. 3-8n-35w in the Jesus Maria field, and is about to spud Martin No. 1 wildcat on Sec. 18-7n-33w in the Lompoc area. In the Bradley Canyon field, Standard Oil of California's Nicholson No. 53-9 on Sec. 9-9n-33w is a new pumper at 7317 ft. The well started off at the rate of 289 barrels of 12 gravity oil daily, cutting 3 per cent. At Cat Canyon, the company has added another producer through the medium of its Alexander No. 164 on Sec. 21-9n-33w. The well is pumping 395 barrels of 23 gravity oil a day from 3940 ft.

Thornbury Co. Sold

Interests of Wilfrid H. (Bill) Geis and W. M. (Bill) Thornbury in the Thornbury Drilling Company have been purchased by Nassau Associates. Terms of the deal between Geis, Thornbury and Nassau said to have involved more than $4,000,000. It is interesting to recall that the company started by drilling for extremely heavy oil at Casmalia. They later obtained heavy oil producing leases in the Guadalupe area of Santa Barbara County for $32,000. An orderly drilling program developed huge oil reserves at Guadalupe. Union oil entered the picture when the oilmen went to the "7600" company and in exchange for a 51 per cent interest along with other considerations acquired the necessary finances to push development of the field. Guadalupe at present is putting out a total of some 2300 barrels a day of 11 gravity oil from 30 wells. It appears that before proved locations can be drilled up, 75 to 100 wells must be put down. Guadalupe and Casmalia are valued at close to $9,500,000. On the operating side Thornbury's Union Sugar No. 1-75 on Sec. 33-11n-34w has been abandoned at 3259 ft. On test of the interval of 3086 ft. and bottom, 650 ft. of salt water was recovered. The company's most recent completion is LeRoy No. P-3 on Sec. 32-11n-35w. It was finished at 3316 ft. pumping at the rate of 20 barrels of oil daily, cutting initially about 50 per cent.

Test Pumps Water

Information from the Harry S. and Josephine E. Rothschild test well tagged Courtney Comm. No. 1 on Sec. 21-3n-23w in the Ventura Avenue area denoted all water was being pumped from a total depth of 11,315 ft.

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Standard Oil's McInnes No. 1 wildcat on Sec. 6-1n-21w is digging some depth below 8100 ft. under the guidance of Marine Drilling Company. The well is in the Oxnard area where interested oilmen will, in the not-too-distant future, be accommodated by a large, modern hotel. Plans have been worked out for the hotel and construction will start shortly.

All signs agreed that Union Oil has extended production of the discovery recently chalked up by Terry Drilling Company in South Tapo Canyon. The well, a northeast offset job to the find, was completed at 2508 ft., with 7-in. casing hung at 2503 ft. and cemented through perforations at 2389 ft. The Terry sand was topped at 2394 ft. in the well which was the first drilling effort to follow the Terry explorer. finaled for approximately 700 barrels of 35 gravity oil a day from the interval of 2370-2570 ft. Location is about two miles southeast of Union's Oakridge field. Accurate production evaluation of Simi No. 1-12 is yet to come. Terry's Tapo No. 3 on Sec. 13-3n-18w is digging at 1980 ft. Tapo No. 4 on the section is in the preparatory stage.

At South Mountain, Union's Culbert No. 1 wildcat on Sec. 19-3n-20w was last reported drilling at 4835 ft. Culbert No. 2 is a location on the section Torrey No. 92 test on Sec. 5-3n-18w at Torrey Canyon is progressing with the drill below 8100 ft., following fishing jobs which delayed normal operations.

Abandonment was the sequel to running of "elog" in Richfield's Hillside No. 2, a wildcat effort on Sec. 8-4n-21w in the Upper Ojai area. At Ojai, Gordon W. Phillips' Bailey No. 2 test on Sec. 12-4n-23w is pumping an unestimated amount of crude oil from 1135 ft. The project on the final touch flowed for a time before flattening out.

With Fowler Drilling Company in charge, Macmillan Petroleum Corporation is nearing the spudding stage with its Alberston No. 1 prospect job on Sec. 15-1n-18w, Ventura County.

The Basolo area near Shiells Can-

yon has given Harry C. Long, operator, an excellent new producer. Labeled Basolo No. 5-5 and located 500 ft. north and 550 ft. west from the center of the northwest quarter of Sec. 5-3n-19w, the well came in from a total depth of 3531 ft. at a rate in excess of 250 barrels of crude oil a day. Company engineers are Kemnitzer, Richards & Diepenbrock, and the project was put down under contract with Dunlap & Graham.

Miller & York, contractors, are all set to take the first bite of ground with M J M & M Oil Company's Foote No. 1 wildcat on Sec. 32-3n-21w in the vicinity of Saticoy.

The Texas Company's Elkins No. 3 on Sec. 7-3n-19w at Bardsdale is rigged and ready to drill under the supervision of Loffland Bros.

Sutter Try Fails

Richfield has abandoned Butte Comm. No. B-7 on Sec. 6-15n-2e at Marysville Buttes in Sutter County at a total depth of 2725 ft. With this production failure it adds up to 10 dry holes out of 11 jobs undertaken by the company during a year of Sutter County exploration. On Sec. 3-15n-1e, Richfield's Butte Comm. No. C-2 is making hole steadily-ahead below 4300 ft. Appromately one-half mile northwest of Richfield's Sutter field discovery well, the company's Capco No. A-1 on Sec. 18-15n-2e is digging at 1000 ft., after setting surface pipe at 514 ft. The Sutter find was born last August, producing gas in quantity from the interval of 2065-2145 ft.

In Monterey County's San Ardo field, General Petroleum has recompleted its Hambey No. 152-18 on Sec. 18-23s-11e at 2260 ft. for an initial yield of 98 barrels of net 11.5 gravity oil a day. Pike Drilling Company did the work.

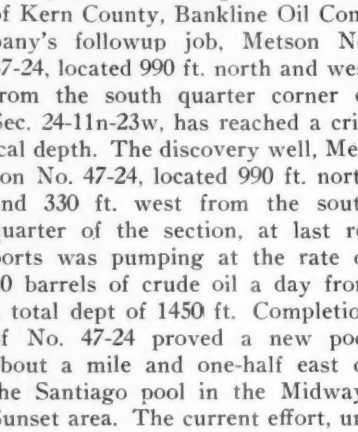
North of the town of Colusa County, Humble Oil's Capital Co. No. 1 wildcat is still in the early operational stage on Sec. 28-16n-1w.

Brown Drilling Company has started the drill in E. A. Bender's J. P. Kraemer No. 1 test on Sec. 26-7n-5e at Elk Grove, Sacramento County. In the Rio Vista field, Brazos Oil & Gas Company of Houston, Tex., has programmed a brace of new drilling jobs. They are Cora R. Brandt No. 3 on Sec. 21-4n-4e, and PFE No. 1 on Sec. 16.

In the Skyline area of Santa Clara County, The Texas Company continues to drill normally ahead at 2862 ft. with Hayward No. 1 exploratory hole on Sec. 5-8s-2w.

San Joaquin Valley Find Followup Working

Having scored with a new discovery in the Santiago Creek area of Kern County, Bankline Oil Company's followup job, Metson No. 37-24, located 990 ft. north and west from the south quarter corner of Sec. 24-11n-23w, has reached a critical depth. The discovery well, Metson No. 47-24, located 990 ft. north and 330 ft. west from the south quarter of the section, at last reports was pumping at the rate of 80 barrels of crude oil a day from a total dept of 1450 ft. Completion of No. 47-24 proved a new pool about a mile and one-half east of the Santiago pool in the Midway-Sunset area. The current effort, unlike its predecessor, will pass up the shallow zones picked up by the discovery well and drill around 3500 ft. for a look at the lower formations.



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In the Junction Station area, The Texas Company's wildcat endeavor on Sec. 31-26s-19e failed to poke into interesting showings and has been abandoned at a bottom of 2782 ft. The project was named Occidental No. 2.

Gus Pongratz, who has been developing production of oil since the early days of Signal Hill and Santa Fe Springs and also in oil areas outside of California, has clicked with a nice new well in the Race Track Hill field. The well was given the final touch in a redrilled depth of 4820 ft. for an indicated 20 barrels of 39.5 condensate and 1,000,000 cubic ft. of gas an hour, according to W. E. (Steve) Dunlap, company geologist and engineer. The drill site is on land leased from the Southern Pacific Company on the railway right-of-way. The Pyramid zone was reported topped at 4740 ft. The 7-in. casing was set at 4670 ft. and 5½-in. landed on bottom and cemented through perforation just above the zone. The new Pongratz job on the lease will be a well designed to go to the Nozu formation.

Lady Luck failed to nod for Ferguson & Bosworth's shallow test of the Phacoides in the Salt Creek area and drilling came to a permanent stop at 530 ft., plus or minus. Known as Superior-Anderson No. 1, the well was drilled on Sec. 30-29s-21e.

McKittrick Try Digs

On an 80-acre farmout from Oil Properties and L. R. Wilhite et al on Sec 230s-21e in the McKittrick area, Public Petroleum Company of Los Angeles is digging below 800 ft. with Williams No. 3 wildcat. Location is about 1500 ft. south of the L. R. Wilhite, operator No. 1, which was completed more than a year ago. The earlier try showed some oil, but subsequently was abandoned because of water encroachment. Ohio Oil Company is several hundred feet below grass roots with its J. B. Sutherland-USL No. 1 wildcat on Sec. 15-30s-21e. It is an extension test of Moriqui Exploration Company's recent discovery. As this is written, Ohio

Oil's KCL-A No. 72-4 test on Sec. 4-32s-26e in the Paloma field was pushing 18,000 ft. and showing no signs of quitting. Nothing official has been announced on the subject, but it appears that the hole may be taken down to 20,000 ft, or even more.

Humble Oil & Refining Company's energetic leasing campaign in San Joaquin Valley has garnered approximately 1450 acres in the McDonald Anticline, area. The ground is portions of Secs. 21, 22 and 27-28s-20e and on a northwest-southwest trend. Humble's lease apparently presages an early play for Eocene production.

Drilled to a bottom of 1745 ft. in gray sand, E. A. Bender's No. 35-13 wildcat on Sec. 32-29s-28e at Kern Bluff is now only a memory.

At Los Lobos, the Richfield campaign there has accounted for a new producer. It is San Emidio No. A41-27 on Sec. 28-11n-22w, which was completed on the pump at 7207 ft. for 130 barrels of 16.2 gravity oil a day.

Southwest of the Ant Hill field, Tracy No. 1 on Sec. 20-29s-29e is a Richfield duster to 5689 ft. and consequently an abandonment.

Rio Bravo Test

Designed to go all the way for a test of the Eocene formation in the Rio Bravo field, Union Oil's Kernco No. 62-34 on Sec. 34-28s-25e is making hole steadily ahead below 1200 ft. Present production in the field is tapping the Rio Bravo and Vedder sands, normally a hundred feet or so below the 11,000 ft. mark.

Standard of California has finaled its No. 47-1Y test on Sec. 1-30s-21e in the Cyrmic area at 1760 ft. for an initial output of 3,530,000 cubic ft. of natural gas daily. This is the company's second producer on the 1Y lease.

Wildcatting in the Poso Creek, Royalty Service Corporation is drilling toward objective level with its Bank No. 1 on Sec. 18-27s-27e. Contractor is Hoover Drilling Company.

Jumping over to Fresno County, Artnell Company's Hogue No. 54-20 explorer on Sec. 20-13s-12e at Little Panoche Creek is digging at 1200 ft. or thereabouts. The venture is designed to look at formations to 5700 ft. Location is about 15 miles southwest of Firebaugh and 20 miles west of Mendota. Humble's E. B. Stone et al No. 1 wildcat is a location on Sec. 13-13s-11e at Panoche Creek. Revere Oil & Gas Company's Brix-Francis No. 1 test is also a location on Sec. 16-17s-18e in the Lanare area.. Northwest of Firebaugh, LeBow-McNee Oil Company has pulled out of its Miller & Lux No. 1 venture on Sec. 31-11s-14e at a dry and dusty 7510 ft.

In Merced County, where Standard has been trying its new oil luck with wildcatting near Dos Palos, a number of leading California operating organizations are scrambling over available leases in likely prospect areas. Shell and Richfield evidently are spearheading the leasing drive and it would occasion no surprise if one or both of these companies should soon announce that exploration work was being inaugurated.

At Madera County's Chowchilla area, Tide Water Associated Oil Company has registered an abandonment with its Redman-Stone No. 1 wildcat on Sec. 17-10n-14e. Quitting depth was 2968 ft.

A check on San Benito County operations disclosed that Oceanic Oil's O'Connor No. 5 on Sec. 3-18s-9e in the Bitterwater field was putting out 5 barrels of 28 gravity oil a day from 1660 ft. The company's O'Connor No. 4 on Sec. 33-17s-9e in the King City area at last reports was producing 80 barrels of similar gravity oil daily from 1650 ft. The company is starting De Alvarez No. 21 on Sec. 5-19s-10e near Lewis Creek. In the Vallecitos area, Monroe-Bear Oil Company's No. 2 wildcat on Sec. 8-17s-11e continues to poke ahead 500 or 600 ft. below grass roots. Expectations are that Bailey Balken and A. D. Krug will resume drilling operations in the future at Hollister, where some months ago they put down two wells in the Flint Hill sector. Recent Hollister reports said that the operators had signed a marketing contract with Coast Counties Gas & Electric Company for sale of the gas from the brace of wells.

In San Luis Obispo County's Simmler area, Shell Oil has pulled out of its McDonald Estate One No. 83-25 wildcat on Sec. 25-29s-17e at a total depth of 4915 ft.

General Petroleum's Clayton No. 14-4 wildcat venture on Sec. 4-9n-24w in the Santa Barbara County part of Cuyama Valley is a duster to 7259 ft. and has been relegated to history.

Guiberson Completes Successful Year

Completion of a successful sales year at The Guiberson Corporation, Dallas, was announced by Gordon G. Guiberson, president, at the corporation's annual stockholders' and directors' meeting held recently.

This past year followed the growth pattern of the past several years, according to Mr. Guiberson, with an increase in gross business in 1952 of 28% over 1951. "Growth of the corporation over the four-year period just ended shows a healthy trend," Mr. Guiberson stated, "with an approximate 300% increase in manufacturing and sales volume."

Completion of a new two-story engineering building of some 15,000 square feet in floor space and a new specially-equipped hydraulic testing laboratory at The Guiberson Corporation plant on Forest Avenue is expected before the middle of this year.

Manufacturers of specialized oil field tools for world-wide use since 1919, The Guiberson Corporation plans continued expansion of its research and development program on new oil field equipment during the coming year.

The stockholders elected officers and directors for 1953. Those named as officers were: S. A. Guiberson, Jr., Chairman of the Board of Directors; Gordon G. Guiberson, President; Alex P. Smith, Executive Vice President and General Manager; N. G. Guiberson, Vice President; William F. Neale, Vice President; A. J. Wallis, Secretary; C. H. Ballard, Treasurer and T. V. Terry, Assistant Secretary and Assistant Treasurer.

S. A. Guiberson, Jr., Gordon G. Guiberson, N. G. Guiberson, William F. Neale, Alex P. Smith and S. Austin Wier were named as directors for 1953.

Spang Develops New Tubing

Development of an improved, precision-made oil country tubing to meet the exacting demands of present and future deep wells has been announced by the Spang-Chalfant Division of The National Supply Co.

Known as Spang Extreme Line Tubing, it is a companion product to Spang Extreme Line Casing, which has enjoyed world-wide acceptance for a number of years.

It will be among the new tubular products exhibited by National Supply at the International Petroleum Exposition in Tulsa, Okla., May 14-23, 1953.

The tubing is upset for a male thread on one end and a female thread on the other, elimating the need for couplings. Wide, rugged, modified Acme threads provide fast joint make-up and maximum speed in running. A metal seal at the small end of the joint provides positive resistance to leakage, without depending on the threads for this protection.

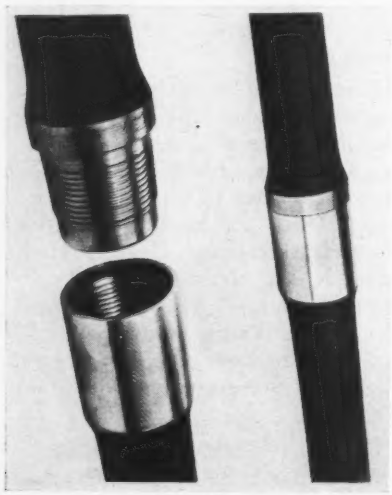
The ruggedness of this joint provides high resistance to damage and permits repeated making up and breaking out without galling. The fact that the joint is integral with the pipe reduces by half the number of threaded connections.

Positive make-up to shoulder insures proper tightness of the joint. Joint strength is 100% in all weights

Exterior and interior contours are streamlined. The streamlined interior contour lends itself to the maximum protection afforded by plastic coating.

Standard weight Extreme Line Tubing is available in 2⅜ in., 2⅞ in., and 3½ in. OD, in both Grade J-55 and Grade N-80. It has flush inside diameter.

Heavy Wall Extreme Line Tubing in Grade N-80 is available in 2⅞ in. and 3½ in. OD. This is provided in order that long combination strings containing either 2⅞ in. OD on top and 2⅜ in. OD on bottom, or 3½ in. OD on top and 2⅞ in. OD on bottom will have a constant inside diameter, a desirable feature when swabbing.



Spang Extreme Line Tubing showing (left) close-up of joint, disassambled and (right) assembled view.

Leschen Offers New Wire Rope Use and Care Booklet

As a completely up-to-date guide to improved wire rope service, a new pocket-size booklet on the "Use and Care of Wire Rope" is now available from A. Leschen & Sons Rope Company, St. Louis. The booklet contains 72 pages of practical information on proper methods of handling, reeving, breaking in, splicing, cutting, lubricating, and specifying wire rope. Included are over 50 illustrations and 32 diagrams and charts to demonstrate and explain suggestions and recommendations for proper wire rope use and care. To get your free copy, write Dept. C-51, A. Leschen & Sons Rope Co., 5909 Kennerly Avenue, St. Louis 12, Missouri, or ask your Leschen wire rope representative.

Air-Cooled Heat Exchangers

A 12-page, illustrated bulletin on air-cooled heat exchangers for a wide variety of industrial cooling and condensing applications has been issued by The Fluor Corporation, 2500 So. Atlantic Blvd., Los Angeles 22, California. Known as Fin-Fan Heat Exchangers, the units described are of the forced draft type and are designed to cool liquids or gases at pressures up to 5,000 PSI and temperatures as high as 1,500 degrees F. These air-cooled units are being installed to replace or augment water-cooled heat exchangers in many plants faced with the necessity of dissipating great heat loads from everyday processes. Copies will be mailed free on request.

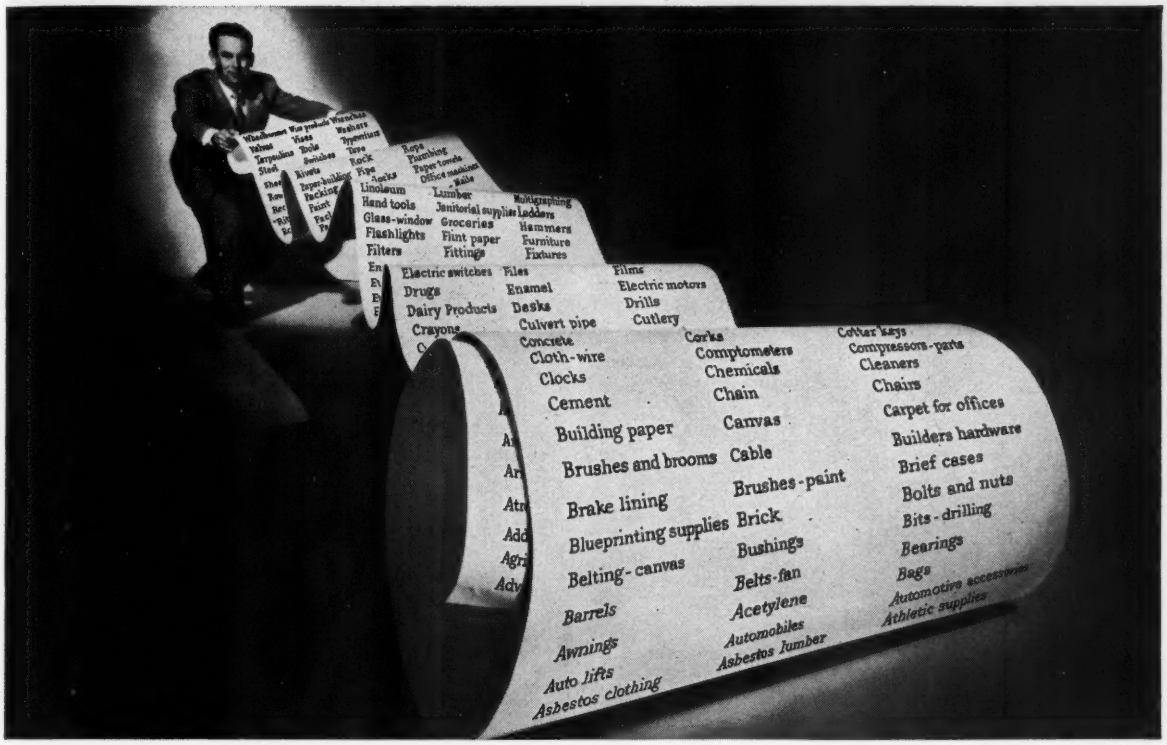
Shell Distillation Plant Goes On Stream

On stream at Shell Oil Company's Houston refinery is a multi-million dollar integrated "platforming" and aromatic extractive distillation plant, designed to add about 10 per cent to the domestic output of benzene plus a large volume of toluene. Yearly output will be in excess of 19,000,000 gallons of benzene and 33,000,000 gallons of toluene. Aromatic and non-aromatic by-products of the plant are blended into aviation gasoline, motor gasoline and special products.

Kellogg Wins El Segundo Job

Standard Oil of California has awarded contract to the M. W. Kellogg Company to build a vacuum distillation unit at El Segundo with a capacity of 55,000 barrels of crude oil daily. The plant will be an exact double of the world's largest vacuum distillation unit, put up at Standard's Richmond refinery a year ago.

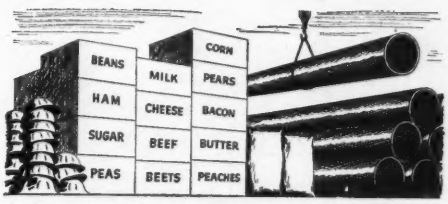
Short story of a long shopping list



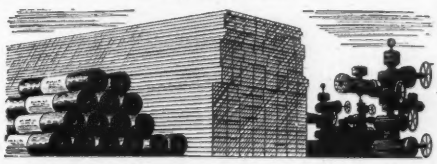
If you were to jot down all the different kinds of goods and services Standard Oil Company of California buys, your shopping list would be about 50,000 items long. Over the years, we've been growing as a *customer* as well as a supplier here in the West.

But the most important aspect of our "shopping," we believe, is *where* we do it. You might think that a large company like Standard would centralize its buying in a few big cities. Actually, our purchases are made in hundreds of Western communities. The almost infinite variety of Standard's needs—from paper clips to propellers, from produce to professional services—has made the Company an important factor in the economic well-being of Western towns and cities.

Last year, once again, Standard was a very good customer for a great many firms—more than 10,000 suppliers, both large and small, to whom we paid more than $125,000,000. We've always bought locally wherever possible and practical. We do it not only because it's good business for Standard, but also because it helps the growth of the West. We know that our long-run prosperity depends on that of the communities we serve.



From groceries to drilling pipe, Standard's purchases in local communities mean business to merchants all through the West.



We buy building materials—lumber, roofing, plumbing, carpentry, and supplies for our oil fields, refineries, plants, and offices.

We also use the services of doctors, nurses, pharmacists, lawyers, engineers, surveyors, drilling contractors, geophysicists and many others.

STANDARD OIL COMPANY OF CALIFORNIA ***plans ahead to serve you better***

THIS

LAUGH

OFF!!

At a political convention, a sign had been erected near the speakers' platform for the benefit of press photographers. It read: "Do not photograph the speakers while they are addressing the audience. Shoot them as they approach the platform."

A gang of county roadmen were way out in the country to repair a road when they discovered they had left their shovels back in town. They phoned their foreman back in town about the trouble.

He replied: "I'll send the shovels out right away by truck. Lean on each other until they get there."

A writer added this note to his manuscript: "The characters in this story are purely fictional and bear no resemblance to any person living or dead."

It came back with the notation: "That's what's wrong with it."

Mr. Newlywed: "Is the steak ready now dear?"

Mrs. Newlywed: "I'm sorry that I've taken so long, Frank, but it looked hopeless grilled, and it doesn't look much better fried; but if you will be patient a little longer, I'll see what boiling does to it."

"There I was," the old prospector was telling his visitors from down East, "the grizzly bear was down in the canyon behind a tree. The only way I could hit him was to ricochet a bullet off this high canyon wall on my right. A one-rail shot, you understand."

He paused to consider the degree of their interest, seemed satisfied, and went on.

"Well, I had gauged my windage, calculated the lead of the barrel and the rate of the twist, the hardness of the bullet and the angle of the yaw it would have after being smacked out of shape against the canyon wall, and I judged my chances were 60-40 that I would get my bear. A one-rail bank. A controlled ricochet. So I fired."

There was silence Then one of his visitors asked rather timidly: "Did you hit him?"

"No," said the old man, I missed the wall!"

It takes a baby approximately two years to learn to talk and between sixty and seventy to learn to keep his mouth shut.

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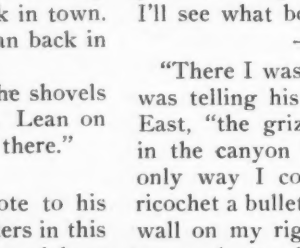

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CUTS DOWN REPAIR AND DISMANTLING TIME

PREVENTS DAMAGE TO CHAIN THAT RESULTS FROM SLEDGING

Bowen Punch-Out Chain Repair Tools are engineered to withstand severe use and are economically priced.

THE TIME SAVED ON ONE APPLICATION WILL OFFSET THE COST

OPERATION—Merely place the roller chain in the Body of the Bowen Punch-Out Chain Repair Tool as indicated in the illustration. Tighten the Screws—this automatically centers the pins of the tool on the pins of the chain. Strike the heads of the pins sharply with a hammer—this will drive the pins forward and quickly and safely force the pins of the chain through the links.

The Bowen Punch-Out Chain Repair Tool is available for A.S.A. Roller Chains in pitches from ½-inch to 3-inch sizes and for API Roller Chains in 3-, 3⅛- and 4-inch sizes.

For further information write the S. R. Bowen Company, Santa Fe Springs, California

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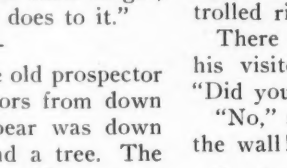

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